



County Palatine of Chester.

REPORT
OF THE
MEDICAL OFFICER OF HEALTH
FOR THE YEAR 1909,



WITH SUMMARY OF REPORTS OF DISTRICT
MEDICAL OFFICERS OF HEALTH.

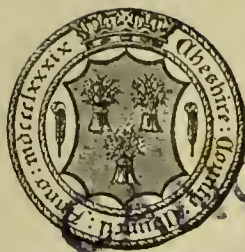
BY
MEREDITH YOUNG, M.D., D.P.H.,

Of Lincoln's Inn, Barrister-at-Law.

PRESENTED TO THE
Public Health & Housing Committee
OF THE COUNTY COUNCIL,

July 15th, 1910.

CHESTER:
PHILLIPSON AND GOLDER, PRINTERS, EASTGATE ROW AND FRODSHAM STREET.



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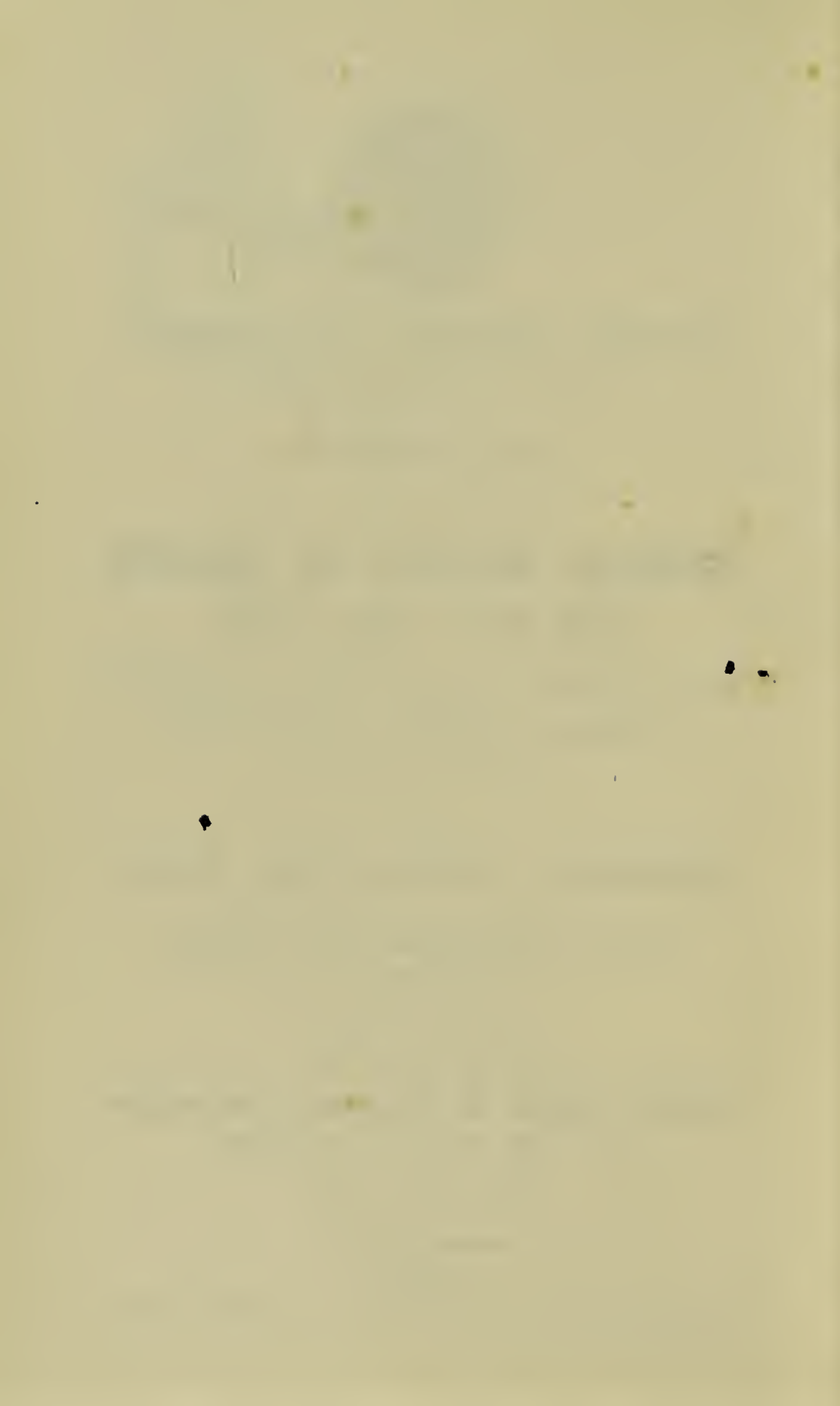
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*Of Lincoln's Inn, Barrister-at-Law,
Lecturer on School Hygiene, Victoria University,
Manchester.*

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REPORT
OF THE
Medical Officer of Health,

For the Year ending December 31st, 1909.

*To the Public Health and Housing Committee of the
County Council of the County Palatine of Chester
and to the Members of the County Council.*

PREFACE.

COUNTY EDUCATION OFFICES,
CHESTER, *June 15th, 1910*

*To the Chairman and Members of the
Public Health and Housing Committee
of the Cheshire County Council.*

MR. CHAIRMAN AND GENTLEMEN,

I have the honour to present you with my Annual Report on the health and general sanitary condition of the Administrative County for the year 1909. In doing so I am happy to be able to congratulate you on a diminished general death-rate, which involves amongst other things, as you will see from the body of the Report, a lessened infantile mortality and a fall in the special death-rates from Zymotic diseases and from Pulmonary Phthisis. The general death-rate and the rates due to infantile mortality have not been lower than those of 1909 for more than ten years.

With the exception of scarlet fever which, though very prevalent in many districts, was of that mild character which it appears to be assuming throughout the whole country, the County has suffered from no marked outbreak of infectious disease.

Many of the Municipal Boroughs and District Councils in the Administrative County have carried out important public works during the year in connection with water-supply, sewerage, and sewage-disposal, but it is superfluous to add that much yet remains to be done in these matters as also in the matter of isolation hospital provision. The Housing and Town Planning Act now in force will facilitate the obtaining of more precise information respecting the sanitary needs of districts than has hitherto been easily available, and as this will be procured in response to the direct application of the County Medical Officer

of Health, under the provisions of the Act mentioned, it is anticipated that it will be fully and freely furnished. In this manner it is expected that some useful and necessary knowledge which has, up to the present, been withheld or which has received but timid allusion in the Reports of District Medical Officers of Health will be rendered available, and that your Committee will have an opportunity of urging the improvement of general sanitation and of special local sanitary requirements in certain districts where these are below a satisfactory standard.

An endeavour has already been made to obtain some of this information in a general manner in order that a comprehensive view might be taken of such things as water-supply, sewerage, sewage-disposal, refuse collection and disposal, housing, the control of phthisis and the like, but so far this has not come to hand in a sufficiently complete form to enable a statement of much value to be presented. The information is, however, being accumulated for the Annual Report of next year.

The work of compiling a Report of this nature whilst other and often pressing work was to be kept up is no light task, and has been rendered much more difficult this year by the very late appearance of some Reports from District Medical Officers of Health. The Annual Report from the Borough of Crewe was only received on June 4th, and that from the Borough of Macclesfield has only appeared in part and in proof form at the date of writing this introduction which is always, of course, the last part of the report to be written. It has thus been a matter of the greatest difficulty to prepare this Report in time for the July meeting of your Committee. This must form the excuse for the incompleteness of the information furnished under certain headings.

I desire to thank your Committee for the careful consideration which you have always given to any recommendations presented by me, and in particular for the equipment of a suitable office and the provision of clerical assistance. But for the latter it is not

too much to say that I could not possibly have continued to carry on the increasing amount of responsible work with which I have to deal.

My thanks are likewise due to all my brother officials and to all the District Medical Officers of Health for assistance given at all times courteously and cordially.

I am,
Mr. Chairman and Gentlemen,
Your obedient servant,
MEREDITH YOUNG.

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Report of the Medical Officer of Health, For the year ended December 31st, 1909.

Section I.—AREA AND POPULATION.

Area.—The Area of the Administrative County of Chester is given in the Census Report of 1901 as 645,918 acres. Owing to the extension of the County Borough of Stockport in 1901 there were 1,738 acres lost to the Administrative County, leaving the area as 644,180 acres.

The principal changes in area have been due to the disappearance of the Stockport Rural District and the re-distribution of its component parts. This re-distribution and the changes in other parts of the County were as follows:—

On November 9th, 1901, the Civil Parish and County Borough of Stockport was extended to include (1) part of the Civil Parish of Brinnington (Census population, 404) in Stockport Rural District (2) part of the Civil Parish of Bredbury and Urban District of Bredbury and Romiley (Census population, 20), also (3) part of the Civil Parish of Cheadle and Urban District of Cheadle and Gatley (Census population, 2,904) and (4) part of the Civil Parish of Hazel Grove-cum-Bramhall and Urban District of Hazel Grove and Bramhall (Census population, 1,857).

On April 1st, 1902, the Civil Parish of Compstall (Census population, 875) ceased to belong to Stockport Rural District and became an Urban District. On the same day the Civil Parish of Whitby (Census population, 4,082) ceased to belong to Wirral Rural District and became Ellesmere Port and Whitby Urban District.

On September 19th 1902, Stockport Rural District was again reduced, the part of the Civil Parish of Brinnington (Census population, 98), yet belonging to Stockport Rural District, being transferred to Bredbury and Romiley Urban District.

All that remained in Stockport Rural District in 1903 was the Civil Parish of Handforth. This obtained urban powers as the Urban District of Handforth in September, 1904. The formation of this new Urban District further reduced the population of the Rural Districts by 911.

The area absorbed by the County Borough of Stockport was :—

| | | |
|--|-----|----------------|
| From Stockport Rural District | .. | ... 196 acres. |
| From Bredbury and Romiley Urban District | ... | 192 „ |
| From Cheadle and Gatley Urban District | ... | 726 „ |
| From Hazel Grove and Bramhall Urban District | ... | 624 „ |
| Total | ... | ...1738 „ |

The other changes named affected the relative proportion of Urban and Rural areas, so that the net result now stands as follows :—

| | | |
|--------------------------|-----|---------------|
| 6 Municipal Boroughs | ... | 15,587 acres. |
| 36 other Urban Districts | ... | 81,805 „ |
| 12 Rural Districts | ... | 546,788 „ |
| Total | ... | 644,180 „ |

Population.—The changes described above affected the population in a similar manner. At the Census of 1901 the population of the Administrative County was enumerated as 599,070. The extension of the County Borough of Stockport resulted in a loss to the County of 5,185 persons as follows :—

| | | |
|--|-----|------------------|
| From Stockport Rural District | ... | ... 404 persons. |
| From Bredbury and Romiley Urban District | ... | 20 „ |
| From Cheadle and Gatley Urban District | ... | 2904 „ |
| From Hazel Grove and Bramhall Urban District | ... | 1857 „ |
| Total | ... | 5185 „ |

On April 1st, 1902, the Civil Parish of Whitby (Census population 4,082), ceased to belong to the Wirral Rural District and became the Urban District of Ellesmere Port and Whitby.

The other changes mentioned above altered the relative proportion of Urban and Rural population, so that estimated to the middle of the year 1909, it is as under :—

| | | |
|--------------------------|-----|-----------------|
| 6 Municipal Boroughs | ... | 178,124 persons |
| 36 other Urban Districts | ... | 320,613 „ |
| 12 Rural Districts | ... | 177,477 „ |
| | | <hr/> |
| Total | ... | 676,214 „ |
| | | <hr/> |

The following Tabular Statement shewing the fluctuations of population in the various districts in the Administrative County as gauged by the two last Census enumerations, is reproduced from previous Reports :—

| Municipal Boroughs. | | | Population Enumer- ated, 1901. | Increase or Decrease of Population between 1891 and 1901. | | Percentage of Increase or Decrease between 1891 and 1901. | |
|----------------------|-----|-----|--------------------------------------|---|----------|---|----------|
| | | | | Increase | D'crease | Increase | D'crease |
| Congleton | ... | ... | 10707 | ... | 37 | ... | 0.34 |
| Crewe | ... | ... | 42074 | 9300 | ... | 28.37 | ... |
| Dukinfield | ... | ... | 18929 | 1544 | ... | 8.88 | ... |
| Hyde | ... | ... | 32766 | 2096 | ... | 6.83 | ... |
| Macclesfield | ... | ... | 34624 | ... | 1385 | ... | 3.84 |
| Stalybridge | ... | ... | 27673 | 890 | ... | 3.32 | ... |
| 6 Municipal Boroughs | | | 166773 | 12408 | ... | 8.03 | ... |

| Other Urban Districts. | Population Enumer- ated, 1901. | Increase or Decrease of Population between 1891 and 1901. | | Percentage of Increase or Decrease between 1891 and 1901. | |
|----------------------------------|--------------------------------------|---|----------|---|----------|
| | | Increase | D'crease | Increase | D'crease |
| Alderley Edge ... | 2856 | 575 | ... | 25.20 | ... |
| Alsager ... | 2597 | 685 | ... | 34.82 | ... |
| Altrincham ... | 16831 | 4391 | ... | 35.29 | ... |
| Ashton-upon-Mersey | 5563 | 1329 | ... | 31.38 | ... |
| Higher Bebington ... | 1540 | 119 | ... | 8.37 | ... |
| Lower Bebington ... | 8398 | 3182 | ... | 61.00 | ... |
| Bollington ... | 5245 | ... | 90 | ... | 1.68 |
| Bowdon ... | 2788 | ... | 4 | ... | 0.14 |
| Bredbury and Romiley | 7185 | 1286 | ... | 22.09 | ... |
| Bromborough ... | 1891 | 151 | ... | 8.67 | ... |
| Buglawton ... | 1452 | 70 | ... | 5.06 | ... |
| Cheadle and Gatley ... | 7916 | 2568 | ... | 31.12 | ... |
| Compstall... .. | 875 | ... | ... | .. | ... |
| Ellesmere Port and Whitby ... | 4082 | ... | ... | ... | ... |
| Hale ... | 4562 | 1987 | ... | 77.16 | ... |
| Handforth ... | 911 | ... | ... | ... | ... |
| Hazel Grove & Bramhall | 7934 | 1923 | ... | 24.44 | ... |
| Hollingworth ... | 2447 | ... | 448 | ... | 15.47 |
| Hoole ... | 5341 | 1449 | ... | 37.23 | ... |
| Hoylake & West Kirby | 10911 | 4366 | ... | 66.70 | ... |
| Knutsford ... | 5172 | 529 | ... | 11.39 | ... |
| Lymm .. | 4707 | ... | 288 | ... | 5.76 |
| Marple ... | 5595 | 751 | ... | 15.50 | ... |
| Middlewich ... | 4669 | 699 | .. | 17.60 | ... |
| Mottram ... | 3128 | .. | 142 | ... | 4.34 |
| Nantwich ... | 7722 | 310 | ... | 4.18 | ... |
| Neston and Parkgate ... | 4154 | 577 | ... | 16.13 | ... |
| Northwich ... | 17611 | 2697 | ... | 18.08 | ... |
| Runcorn ... | 16491 | ... | 3559 | ... | 17.75 |
| Sale ... | 12088 | 2444 | ... | 25.86 | ... |
| Sandbach ... | 5558 | ... | 266 | ... | 4.57 |
| Tarporley ... | 2644 | ... | 58 | ... | 2.14 |
| Wallasey ... | 53579 | 20350 | ... | 61.24 | ... |
| Wilmslow ... | 7361 | 1017 | ... | 16.03 | ... |
| Winsford ... | 10382 | ... | 58 | ... | 0.55 |
| Yeardsley-cum-Whaley | 1487 | 252 | ... | 20.40 | ... |
| 36 other Urban Districts | 263673 | 48794 | ... | 22.83 | ... |

| Rural Districts. | Population Enum- erated 1901. | Increase or Decrease of Population between 1891 and 1901. | | Percentage of Increase or Decrease between 1891 and 1901. | |
|------------------------|--|---|----------|---|----------|
| | | Increase | D'crease | Increase | D'crease |
| Bucklow | 19890 | 2097 | ... | 11.78 | ... |
| Chester | 10989 | 165 | ... | 1.52 | ... |
| Congleton | 12220 | ... | 285 | ... | 2.33 |
| Disley | 2827 | 567 | ... | 25.08 | ... |
| Macclesfield | 15775 | ... | 121 | ... | 0.76 |
| Malpas | 4488 | ... | 136 | ... | 2.93 |
| Nantwich | 23197 | 285 | ... | 1.24 | ... |
| Northwich | 22073 | 1119 | ... | 5.34 | ... |
| Runcorn | 23244 | ... | 674 | ... | 2.81 |
| Tarvin | 12614 | ... | 89 | ... | 0.70 |
| Tintwistle | 2105 | ... | 471 | ... | 18.24 |
| Wirral | 14017 | ... | 530 | ... | 2.84 |
| 12 Rural Districts ... | 163439 | 1924 | ... | 1.17 | ... |

In all cases of change of area between 1891 and 1901, the enumerated population in 1901 is compared with the enumerated population of the new area in 1891.

The estimated populations for 1909 for the whole of the districts in the Administrative County are shewn in Table I. in the Appendix to this Report. Whilst all such estimates are made with the greatest accuracy possible, the further one gets from the actual census enumeration the greater becomes the liability to error, and it is therefore feared that next year, when preliminary census figures will probably be available in time for this Report, a certain amount of error will be perceptible. The need for a more frequent census is not quite so apparent in a County as it is in the very large towns, but at the same time the fact that such a thing is desirable even in County areas is apparent from the special census enumerations which have been from time to time made in various districts in this County.

The taking of a quinquennial census is, one gathers from a recent utterance in the House of Commons by the President of the Local Government Board, again to be deferred on account of the question of cost.

Density of Population.—This is shewn in the first Table of Statistics given at the end of this Volume. In the 6 Municipal Boroughs it averages 11.42 persons per acre, in the 36 other Urban Districts 3.91 persons per acre, and in the 12 Rural Districts 0.32 persons per acre. Taking the Administrative County as a whole it averages 1.04 persons per acre. The variation is of course considerable in different parts of the County. In Altrincham Urban District it is highest, namely, 28.17 persons per acre, and this figure is closely followed by Crewe Municipal Borough (22.23), Wallasey Urban District (21.85), and Hoole Urban District (19.09). The lowest figures for density of population are found in Tintwistle Rural District (0.17), Malpas Rural District (0.20), and Tarvin and Macclesfield Rural Districts each (0.21), whilst several of the other Rural Districts shew figures only very slightly higher.

Tenements.—The proportion of tenements with less than 5 rooms, which averaged 41.0 per cent. of total tenements in the entire Administrative County at the Census of 1901, shewed considerable variations in the larger Urban Districts. The proportion then ranged from 15.0 per cent. in Crewe, and 19.7 per cent. in Wallasey, to 68.6 per cent. in Stalybridge and 71.6 per cent. in Hyde.

SECTION II.—Births and Deaths.

Births.—There were 15,468 births registered in the Administrative County during 1909, namely, 3,927 in the 6 Municipal Boroughs, 7,514 in the 36 other Urban Districts, and 4,027 in the 12 Rural Districts.

The birth-rate per thousand living in the Administrative County was therefore, 22.87 for the year 1909. In the whole of England and Wales this rate was 25.6 per thousand living, in the Rural Districts of England and Wales 25.6, in the 76 great towns 25.7, and in the 143 smaller towns 24.8. In Cheshire the birth-rate varied from 22.6 in the six Municipal Boroughs to 23.4 in the 36 other Urban Districts, and 22.0 in the 12 Rural Districts. Ellesmere Port and Whitby Urban District shewed an exceptionally higher rate of 41.2, and the rate varied in other parts of the County from 35.4 in Higher Bebington Urban District, and 32.3 in Middlewich Urban District down to 11.2 in Bowdon Urban District, 14.63 in Hale Urban District, 16.4 in Disley Rural District, and 16.9 in Tintwistle Rural District.

Speaking generally, the birth-rates are lower in the better-class residential districts than in the poorer-class districts and in the working parts of manufacturing Towns. Take the following as examples in this County :—

| Better-class Districts. | | | Birth-Rate. |
|-------------------------|-----|-----|-------------|
| Alderley Edge | ... | ... | 18.8 |
| Bowdon | ... | .. | 11.2 |
| Hale | ... | ... | 14.63 |
| Hoylake and West Kirby | ... | ... | 18.5 |
| Wilmslow... | ... | ... | 19.0 |

Working-class Districts.

| | | | |
|--------------------------------|-----|-----|-------|
| Ellesmerc Port and Whitby U.D. | ... | ... | 41.2 |
| Middlewich U.D. | ... | ... | 32.3 |
| Crewe Borough | ... | ... | 23.05 |
| Buglawton U.D. | ... | ... | 28.2 |
| Northwich | .. | ... | 24.2 |
| Runcorn U.D. | ... | ... | 26.7 |
| Sandbach U.D. | ... | ... | 27.2 |
| Winsford U.D. | ... | ... | 25.5 |

The difference is thus apparent, and it implies undoubtedly that the population is being recruited mainly from the working class section. Those who draw gloomy presages from the growth of democracy have to look here for one of the main factors in the situation. My own views, which have been repeated to the point almost of monotony, are that this steady and persistent decline in the birth-rate, especially amongst the comparatively well-to-do and educated classes of this country, is due to causes which are far from unavoidable, and is one, moreover, which is fraught with very serious consequences to the future of the Empire.

Deaths.—The total number of deaths during 1909 in the Administrative County numbered 8,604, namely, 2,609 in the 6 Municipal Boroughs, 3,853 in the 36 other Urban Districts, and 2,142 in the 12 Rural Districts. The death-rate for the County, as a whole, was 12.72 per thousand living. The comparative figures for the rest of the country were :—

| | | | |
|-------------------|-----|-----|------|
| England and Wales | ... | ... | 14.5 |
| 76 Great Towns | ... | ... | 15.6 |
| 143 Smaller Towns | ... | ... | 14.5 |
| Rural Districts | ... | ... | 13.6 |

In the 6 Municipal Boroughs of Cheshire taken together the death-rate was 14.64, in the 36 other Urban Districts 12.01, and in the 12 Rural Districts 12.06.

The highest rates were recorded in the following places :—

| | | | |
|-----------------------|-----|-----|-------|
| Buglawton U.D. | ... | .. | 18.5 |
| Congleton M.B. | ... | ... | 17.09 |
| Dukinfield M.B. | ... | ... | 16.19 |
| Nantwich U.D. | ... | ... | 15.9 |
| Stalybridge M.B. | ... | ... | 15.87 |
| and Macclesfield M.B. | ... | ... | 15.7 |

The lowest rates were recorded in the following places :—

| | | | |
|-------------------------------|-----|-----|------|
| Hale U.D. | ... | ... | 6.08 |
| Yeardsley-cum-Whaley U.D. | ... | ... | 7.3 |
| Cheadle and Gatley U.D. | ... | ... | 7.63 |
| Hoole U.D. | ... | ... | 8.9 |
| Hazel Grove and Bramhall U.D. | ... | ... | 9.5 |
| Lower Bebington U.D. | ... | ... | 9.8 |
| Wirral R.D. | ... | ... | 10.1 |
| Disley R.D. | ... | ... | 10.2 |



The death-rate for the Administrative County in 1909 affords some reason for congratulation, as a glance at the death-rates for the previous ten years will show.

DEATH-RATES PER 1000 LIVING.

| Year. | | Cheshire. | | England and Wales. |
|-------|-----|-----------|-----|--------------------|
| 1909 | ... | 12.7 | ... | 14.5 |
| 1908 | ... | 13.1 | ... | 14.7 |
| 1907 | ... | 13.6 | ... | 15.0 |
| 1906 | ... | 13.7 | .. | 15.4 |
| 1905 | ... | 13.8 | ... | 15.2 |
| 1904 | ... | 15.7 | ... | 16.2 |
| 1903 | ... | 14.1 | ... | 15.4 |
| 1902 | .. | 14.6 | ... | 16.2 |
| 1901 | ... | 15.6 | ... | 16.9 |
| 1900 | ... | 15.9 | ... | 18.2 |

The low death-rate during the year under review is no doubt the result of the absence of any wide-spread epidemics, and the

GENERAL DEATH-RATE (ALL CAUSES) & ZYMOTIC DEATH-RATE IN CHESHIRE 1900-1909.

GENERAL DEATH-RATE  ZYMOTIC DEATH RATE 



lessened occurrence of infantile diarrhœa, the latter being due, in large part at all events, to the absence of meteorological conditions favourable to the development of the causative germ. Measles and Whooping Cough have not prevailed to their usual extent during 1909, Influenza has only occurred in small and localised outbreaks, and Scarlet Fever has throughout the County been of a mild type. The year has thus been a fortunate one.

Infantile Mortality.—The Local Government Board in their Memorandum on the preparation of Annual Reports by Medical Officers of Health, lay special stress on certain information which they desire should be given in the section relating to infantile mortality. Certain paragraphs from this Memorandum are quoted, and I have italicised some of those paragraphs as relating to matters which have not, in my opinion, received adequate comment in many of the Reports with which I have been furnished. It is not possible, in the absence of such information, for such a complete statement of this highly important question to be presented for the County as a whole, as one would wish to give, and one trusts that the little labour necessary will not be grudged in the future Reports of Medical Officers of Health.

This section of the report should treat of each disease in turn; and it will be convenient in the same connection to describe the administrative action taken. Thus the administration of the Midwives Act may with advantage be considered in relation to puerperal fever and of the Notification of Births Act, 1907, in relation to Infant Mortality.

“If the last named Act has been adopted, the Medical Officer of Health should report fully in his annual report on the measures taken by assistance of the Act in repression of infant mortality, and on the observed effect of such measures.

“Table V. issued by the Board affords opportunity for record in detail of facts as to infant mortality. It is well known that in many parts of this country the infantile death-rate remains unduly high; that it differs widely in districts the circumstances of which are not definitely dissimilar; and that within the limits of a given sanitary area this death-rate may exhibit striking diversities. Not a few Medical Officers of Health, in their annual reports—more particularly in reports of recent years—have dealt in detail with this subject, thus making important contributions to a better understanding of the conditions which conduce to infant mortality. Nevertheless, statistics available in this connection do not afford, except in a broad and general way, satisfactory basis for comparison

of district with district, nor, indeed, always for useful contrast of different sections of the same district.

“In the text of his annual report, the Medical Officer of Health will, no doubt, comment on the facts that he has recorded in his table or tables, offering, at the same time, observations on the conditions which, in his view, have mainly contributed to any special infant mortalities witnessed, and giving account of any measures adopted to ameliorate those conditions regarded by him as especially hostile to infant life. In so far as modification of procedure for the purpose, or of law in facilitating such modification, is in his opinion necessary, the Medical Officer of Health is invited to state his views.”

“It is not proposed that report on the above lines be limited to districts exhibiting unduly high infantile death-rates. Data are desirable respecting districts low in the scale of infant mortality, with comment by the Medical Officer of Health on the facts that he is recording, and indication of the conditions which, in his view, have principally conduced in his district to comparatively insignificant infantile death-rate.”

Taking the Administrative County as a whole, the deaths of infants under one year of age numbered 1,514, equal to a rate per thousand registered births of 99.3. In England and Wales the comparative figure was 109, in the 76 great towns 118, in the 143 smaller towns 111, and in the Rural Districts 98. The figure for the Administrative County of Cheshire is thus a distinctly favourable one. But there are lights and shades in the picture, as may be seen from the fact that in the six Municipal Boroughs of Cheshire the rates recorded averaged 126.55, as compared with 95 in the 36 other Urban Districts, and 75 in the 12 Rural Districts.

In the following districts infantile mortality ruled high :—

| | | | |
|--------------------------------|-----|-----|-----|
| Nantwich U.D. | ... | ... | 162 |
| Dukinfield M.B. | ... | ... | 157 |
| Runcorn U.D. | ... | ... | 136 |
| Middlewich U.D. | ... | ... | 155 |
| Hyde M.B. | ... | ... | 147 |
| Stalybridge M.B. | ... | ... | 146 |
| Mottram U.D. | ... | ... | 145 |
| Tarporley U.D. | ... | ... | 142 |
| Ellesmere Port and Whitby U.D. | ... | ... | 140 |

INFANTILE MORTALITY IN CHESHIRE.

FROM 1876 TO PRESENT DATE.



On the other hand, very low rates were recorded in the following districts:—

| | | | |
|---------------------------|-----|-----|----|
| Bowdon U.D. | ... | ... | 31 |
| Bromborough U.D. | ... | ... | 45 |
| Compstall U.D. | ... | ... | 45 |
| Ashton-upon-Mersey U.D. | ... | ... | 49 |
| Yeardsley-cum-Whaley U.D. | ... | ... | 49 |
| Wilmslow U.D. | .. | ... | 50 |
| Higher Bebington U.D. | ... | ... | 51 |
| Handforth U.D. | ... | ... | 53 |
| Neston and Parkgate U.D. | ... | ... | 56 |
| Hollingworth U.D. | ... | ... | 57 |
| Macclesfield R.D. | ... | ... | 58 |
| Wirral R.D. | ... | ... | 61 |

Some of the above figures, relating to both high and low mortality rates, are no doubt accidental, and are due to the smallness of the statistics concerned. Probably a consideration of the statistics over a period of 5 or 10 years would shew different results. On the other hand there may be, in some of the districts of low infantile mortality, factors concerned which, properly investigated and recorded, would throw useful light on some of the problems associated with this interesting question.

Before long now it is hoped that the results of the special inquiry conducted under the auspices of the Home Office into the influence of employment of married women on infantile mortality will be available, and that in addition to a solution of the broad question involved, there will be available useful suggestions for further administrative procedure on the part of Local Authorities.

The following Table shews for the Administrative County of Cheshire and England and Wales the infantile mortality rates for the past ten years.

| Year. | Cheshire. | England & Wales. | Year. | Cheshire. | England & Wales. |
|-------|-----------|------------------|-------|-----------|------------------|
| 1909 | 99 | 109 | 1904 | 144 | 145 |
| 1908 | 113 | 121 | 1903 | 126 | 132 |
| 1907 | 112 | 118 | 1902 | 119 | 133 |
| 1906 | 118 | 132 | 1901 | 150 | 151 |
| 1905 | 119 | 128 | 1900 | 143 | 154 |

It will thus be seen that besides being the lowest rate recorded in Cheshire during the past ten years, the rate for Cheshire has on all these occasions been below that of the country as a whole.

The Seventy-First Annual Report of the Registrar General gives information relating to the infantile mortality since the year 1876, and the following figures taken from that Report may be of interest.

The infantile death-rates in Cheshire have been as follows as compared with those for England and Wales as a whole.

| Period. | Cheshire Infantile Mortality Rate. | England & Wales Infantile Mortality Rate. |
|-----------|--|---|
| 1876-1880 | ... 140 | ... 145 |
| 1881-1885 | ... 137 | ... 139 |
| 1886-1890 | ... 146 | ... 145 |
| 1891-1895 | ... 155 | ... 151 |
| 1896-1900 | ... 157 | ... 156 |
| 1901-1905 | ... 138 | ... 138 |

The Infantile mortality in the Municipal Borough of Congleton is a good deal below the average for the previous 10 years, being only 107 per thousand births.

In the Borough of Crewe the deaths of infants were also favourable as compared with preceding years, numbering only 104 per thousand births. The deaths from diarrhoea diseases numbered less than half those for 1908. The Committee have decided not to adopt the Notification of Births Act, as they had no provision for visiting cases which might be notified.

In the Borough of Dukinfield the infantile mortality is considerably better than the average for the previous 10 years, namely 157 per thousand births, as compared with 211 for the 10 years 1899-1908. A special report is presented every month to the Council relating to the deaths of infants under 12 months, but as yet no definite cause of mortality has been pointed out as the result of these enquiries.

The deaths of infants in the Borough of Hyde is again lower than in any previous year as far back as 1892, being only 147 as compared with an average for the previous 10 years of 189. The principal causes of deaths of infants have been marasmus, pneumonia, and premature birth. The Ladies' Health Society has done

extremely useful work in connection with infantile mortality during the year. Each lady voluntarily undertakes the work, and has a district assigned to her, in which she visits houses in which a baby is known to be born, giving friendly advice on the care and management of it. This Borough has not adopted the Notification of Births Act.

In Stalybridge Municipal Borough, infantile mortality was 146 per thousand compared with an average of 211 for the previous 10 years. The Medical Officer of Health ascribes this to steadily improving sanitary conditions, favourable climatic conditions, and the efforts of the Lady Sanitary Inspector who visits cases reported under the Notification of Births Act. In addition to visiting births, the Lady Inspector also enquired into the deaths of infants under one year of age, and in both connections she encourages as much as possible feeding by the breast instead of artificial feeding. As is somewhat usual, wasting diseases were responsible for almost half the deaths of infants under one year of age.

In the Macclesfield Municipal Borough the infantile death-rate was 110 per thousand births—a lower figure than has been recorded for some years. The Births Notification Act came into force on April 1st, 1909, and cases notified are visited by Health Visitors. Further comment is not possible owing to the late receipt of this Report.

In the Urban District of Bowdon the infantile mortality is the lowest recorded in the whole Administrative County, namely, 31 per thousand births. In a district of this size, however, fluctuations are bound to be very great, and it would probably be fairer when considering the statistics of such a district to take them over a period of at least 5 or, better still, 10 years.

In the Urban District of Ellesmere Port and Whitby, the infantile mortality rate, as was to be expected, has been somewhat high. It will be noted that the birth-rate for this district is 41 per thousand living, and it very frequently happens that a high birth-rate is accompanied by a high infantile mortality.

In the Urban District of Knutsford very useful work continues to be done by the Nurse appointed to carry out duties under the Notification of Births Act. In addition to visiting cases in this way the Nurse distributes gauze covers for milk vessels with the object of preventing the access of house flies to milk, a procedure which might well be imitated by other Local Authorities.

In the Urban District of Middlewich the Council contribute a certain amount to the funds of the District Nursing Committee, so that the Medical Officer of Health may be able to give the Nurse specific instructions on the visitation of babies. The system has not been in operation for a sufficiently long time to enable any conclusions to be drawn as to its value.

Nantwich Urban District has the unenviable notoriety of possessing the highest infantile mortality rate in the whole of the Administrative County, including the Municipal Boroughs, the rate being 162 per thousand births. This is somewhat to be wondered at, for in Nantwich special measures are taken to lessen the mortality amongst infants. The District Nurse not only visits all children born amongst the working classes but advises and distributes leaflets on the feeding and management of children. There is also in the town a Babies' Day Nursery for the reception of children whose mothers have to work in factories. The Babies' Day Nursery is doing excellent work, and 80 children were nursed there during 1909.

In the Northwich Urban District the rate of infantile mortality is 101, a figure which is the lowest for over 10 years.

The rate has also been exceedingly high in the Runcorn Urban District, where it reached 156 per thousand births. This is the third highest rate in the County. Convulsions caused about one-third of these deaths, and for the remainder, wasting diseases, premature birth, tubercular diseases, and pneumonia were responsible in the order stated.

Although it is probably a circumstance due to the smallness of the District, the rate at Tarporley is the high one of 142, which is 52 per 1,000 above the average rate in this district.

A somewhat remarkable drop in the infantile mortality rate is recorded in Wallasey Urban District, where it fell to 80 per 1,000 births. Only once before during recent years has this rate fallen below 100, namely in 1905 when it was 98. Some of this saving is due to a fall in the deaths from the common infectious diseases, but there is also a notifiable decrease in the deaths from diarrhoeal and wasting diseases. The Medical Officer of Health has not felt justified up to the present in recommending the adoption of the Notification of Births Act.

In the Nantwich Rural District, the last named Act is not in force. The Lady Inspector under the Children Act is stated to be doing good work by visiting nursed out infants.

The infantile mortality rate in Runcorn Rural District for 1909 compares very favourably with that for preceding years.

There is nothing calling for special comment in the infantile mortality statistics in the remaining districts.

Notification of Births Act.—This Act has so far been adopted by the following Local Authorities:—

Macclesfield Municipal Borough.

Stalybridge " "

Knutsford Urban District.

Middlewich " "

Nantwich " "

Chester Rural District.

The want of administrative machinery to follow up the notifications is apparently responsible for the non-adoption of the Act. But in districts where infantile mortality runs high this Act undoubtedly affords the best means of its reduction, and it is therefore hoped that such districts, and particularly the Municipal Boroughs, will carefully consider the question and take progressive action.

Illegitimate Infants.—In very few Reports is there any allusion to this matter.

In the Borough of Crewe 5.1 per cent. of the births registered were those of illegitimate children, and during the year 4 deaths occurred amongst this class of children.

This Report also shews for a number of years the death-rate amongst illegitimate children, and with one single exception, this is higher than that of children born in wedlock.

In the Borough of Hyde, 23 illegitimate births were registered, and in the Borough of Macclesfield 52, equal to a rate of 7.2 per cent. of the total births. Although in Macclesfield a number of prospective mothers resort to the Workhouse situated in the Borough for their confinement, the illegitimate birth-rate in this Borough is an unusually high one. The figures given in certain other reports call for no special comment.

Still-born Children.—There is only one reference to this important matter in the Reports received, namely:—In the Borough of Crewe, in which it is stated that during 1909 there

were 73 still-born children interred in the Borough Cemetery, a number equivalent to 6.5 per cent. of the total births.

The registration of every still-birth under a certificate signed by a medical practitioner should be made compulsory, for there is little question that many so-called still-births are not such at all.

Deaths from Zymotic Disease.—Under this heading are included deaths from certain Zymotic diseases specially scheduled by the Registrar-General, namely:—Small-pox, Scarlet Fever, Measles, Diphtheria (including Membranous Croup), Whooping-cough, Fever (Typhus, Typhoid, Continued, and ill-defined fevers of uncertain origin), and Diarrhœal diseases of Zymotic origin. The death-rate in the Administrative County from this group of diseases during 1909 was 0.66 per 1,000 of the estimated population. In the 6 Municipal Boroughs it was 0.74, in the 36 other Urban Districts 0.66, and in the 12 Rural Districts only 0.58 per 1,000 of the estimated populations.

In England and Wales as a whole the corresponding rate was 1.12 per 1,000, in the 76 great towns 1.42, in the 143 smaller towns 1.08, and in the Rural Districts 0.80. The rates appear to have been unusually high in the following areas:—

| | |
|-----------------------------------|------|
| Ellesmere Port and Whitby U.D.... | 2.86 |
| Ashton-upon-Mersey U.D. ... | 1.8 |
| Nantwich U.D. ... | 1.7 |
| Winsford U.D. ... | 1.4 |
| Chester R.D. ... | 1.25 |
| Dukinfield M.B. ... | 1.17 |
| Tarvin R.D. ... | 1.12 |
| Nantwich R.D. ... | 1.07 |
| Sale U.D. ... | 1.0 |

The deaths in the Administrative County from the various components of this general cause of death have been as under:—

| | |
|--------------------|-----|
| Measles ... | 119 |
| Scarlet Fever.. | 79 |
| Diphtheria ... | 71 |
| Whooping-cough | 40 |
| "Fever" ... | 39 |
| Diarrhœal Diseases | 91 |
| <hr/> | |
| Total Deaths ... | 439 |
| <hr/> | |

The death-rates in Cheshire (Administrative County) and England and Wales from this class of disease for the past ten years have been as under :—

| Year. | | Cheshire. | | England and Wales. |
|-------|-----|-----------|-----|--------------------|
| 1909 | ... | 0.66 | ... | 1.12 |
| 1908 | ... | 1.13 | ... | 1.29 |
| 1907 | ... | 1.14 | ... | 1.26 |
| 1906 | ... | 1.27 | ... | 1.73 |
| 1905 | ... | 1.10 | ... | 1.52 |
| 1904 | ... | 1.84 | ... | 1.94 |
| 1903 | ... | 1.15 | ... | 1.46 |
| 1902 | ... | 1.19 | ... | 1.64 |
| 1901 | ... | 1.63 | ... | 2.05 |
| 1900 | ... | 1.55 | ... | 2.00 |

The rate for 1909 thus stands out as a highly pleasing record, but, subject as this rate is to somewhat extreme fluctuations, chiefly due to the prevalence and fatality of diseases which are apt to occur in epidemic outbursts, too much must not be made of the statistics of a single year. A comparison with the records of previous years as to deaths from the various Zymotic diseases is useful and interesting.

Presented as rates per thousand persons living these may be arranged as follows, comparative figures being given for the ten preceding years.

| Year. | 1909. | 1908. | 1907. | 1906. | 1905. | 1904. | 1903. | 1902. | 1901. | 1900. |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Smallpox ... | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.03 | 0.02 | 0.003 | 0.00 | 0.00 |
| Measles ... | 0.18 | 0.21 | 0.35 | 0.13 | 0.23 | 0.48 | 0.10 | 0.33 | 0.15 | 0.26 |
| Scarlet Fever ... | 0.12 | 0.12 | 0.10 | 0.11 | 0.09 | 0.10 | 0.15 | 0.11 | 0.10 | 0.14 |
| Diphtheria and Membranous Croup | 0.11 | 0.15 | 0.14 | 0.15 | 0.17 | 0.15 | 0.18 | 0.24 | 0.23 | 0.10 |
| Whooping Cough ... | 0.06 | 0.23 | 0.25 | 0.14 | 0.16 | 0.35 | 0.32 | 0.19 | 0.24 | 0.34 |
| Fever ... | 0.06 | 0.08 | 0.06 | 0.09 | 0.10 | 0.11 | 0.06 | 0.11 | 0.17 | 0.17 |
| Diarrhœal Diseases ... | 0.13 | 0.34 | 0.19 | 0.65 | 0.35 | 0.62 | 0.32 | 0.21 | 0.74 | 0.52 |
| Total rate ... | 0.66 | 1.13 | 1.14 | 1.27 | 1.10 | 1.84 | 1.15 | 1.19 | 1.63 | 1.55 |

The fluctuations in the case of the mortality rates from Measles, Whooping Cough and Diarrhoeal Diseases are well seen in this Table. Scarlet Fever presents a comparatively low and even mortality rate during the ten years shown. Diphtheria presents a mortality rate which steadily diminishes from 1901 onwards down to a figure in 1909 less than half of that shown at the commencement of the disease—a result due doubtless to the increasing use of antitoxin. The rate of mortality from “Fever” has not varied very greatly.

Scarlet Fever.—There were 79 deaths due to this disease during 1909, 9 in the Municipal Boroughs, 48 in the 36 other Urban Districts, and 22 in the 12 Rural Districts. Twenty of these deaths occurred in the Urban District of Wallasey, where the disease was severely prevalent. The death-rate from this disease in the Administrative County was 0.12 per thousand persons living.

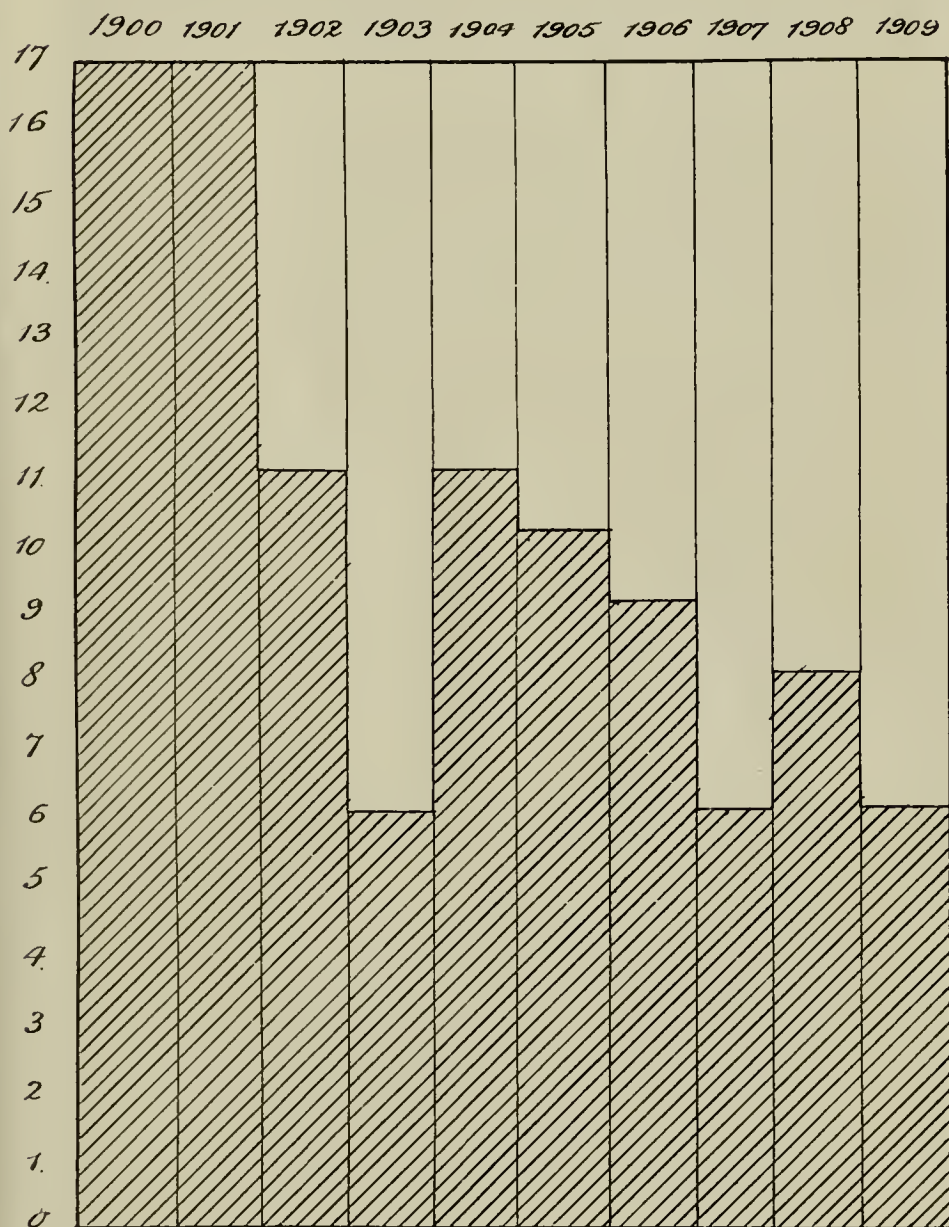
During the past 40 years the fall in the mortality from Scarlet Fever has been remarkable, not only in this County but throughout the whole country. The disease still remains exceedingly fatal to children under the age of 10 years, and particularly to children in the first five years of life. The decline in Scarlet Fever mortality as a whole is now regarded as being due to a milder form of infection rather than a diminished occurrence of the disease. The returns of the Metropolitan Asylums Board from 1872 onwards show that the number of deaths occurring in the huge number of Scarlet Fever cases treated annually in these Hospitals is steadily declining.

Diphtheria and Membranous Croup.—These diseases are now universally classed together as Diphtheria. But few cases now occur, however, where the term “Membranous Croup” is used. The number of deaths due to these causes during 1909 in the Administrative County was 71, a number equal to a death-rate of 0.11 per thousand persons living. With the exception of Crewe Municipal Borough, where the number of deaths was 7, there appeared to be no special incidence of mortality. The experience of Crewe is alluded to in the section of this report relating to Infectious Diseases.

From the Reports of the Registrar-General it is apparent that according to recent experience at all events, diphtheria is much more destructive in the town than in the country, although it was in early years considered to be mostly a disease of country districts. This fact is particularly notice-

DEATH-RATE FROM "FEVER" IN CHESHIRE.

1900 — 1909.



able in children under 5 years of age, who die of it practically at twice as great a rate in the Urban Areas as they do in the Rural. There is no question that a certain proportion of the deaths ascribed to such conditions as "quinsy," "ulcerated sore throat," "tonsillitis," &c., are really of diphtheric nature, and as bacteriological examination continues to be more utilised for purposes of diagnosis, it is probable that a greater proportion of these deaths will eventually be recorded under the heading of Diphtheria. That this is actually taking place to some extent at the present day is evident from the fact that the mortality from "tonsillitis," "ulcerated sore throat," "quinsy," &c., is becoming smaller every year.

Whooping-cough.—Only 40 deaths are ascribed to this cause, a number equal to a death-rate of 0.06 per thousand persons living. This is the lowest death-rate from this disease on record for the past ten years. The deaths occurred as under:—

| | | | |
|--------------------------|-----|-----|-----------|
| 6 Municipal Boroughs | ... | ... | 7 deaths. |
| 36 Other Urban Districts | ... | ... | 17 „ |
| 12 Rural Districts... | ... | ... | 16 „ |

Whooping-cough is still almost confined in its fatal effects to children under the age of 5 years. Whereas Measles, Scarlet Fever and Diphtheria are more fatal in the second and fourth years of life, Whooping-cough is more fatal in the first year of life than in any subsequent year of the first five. Another peculiarity of Whooping-cough mortality is that it is greater amongst girls than amongst boys. In Urban areas children die from Whooping-cough at a greater rate than in Rural areas, in some instances the mortality being from 5 to 7 times as great in crowded Urban districts as in the less populous Rural districts.

Fever.—This term embraces Typhus, Typhoid or Enteric, and other Continued Fevers. As Typhus Fever is extinct except for very rare and isolated cases, and as Continued Fever is regarded as synonymous with Enteric or Typhoid Fever, this group of diseases may be looked upon as representative of Typhoid Fever only. The deaths due to "fever" in the Administrative County during 1909 numbered 39, equal to a rate per thousand persons living of 0.06. The death-rate from this disease or group of diseases has not been a high one in the County for many years. London is usually regarded as a City in which Typhoid Fever is present almost

to a minimum degree, and the death-rates from Enteric or Typhoid Fever therein for many years closely resemble those for Cheshire.

Cases of simple Continued Fever are becoming very much rarer than they were a few years ago, and are probably being transferred to the Typhoid Fever group. The same remark applies to the disease termed Febricula. According to the Reports of the Registrar-General the mortality from Typhoid Fever has dropped considerably during the course of the last 30 years. The drop was very marked during the first 20 years of that period, but during the past 10 years it has not been so great. Another fact that is emphasized by the Registrar-General's Report is that Enteric Fever is enormously more fatal in the town than in the country, and that both in town and in country the death-rates in males above the ages of 10 years considerably exceed those in females. Certain districts present a higher mortality figure than is desirable. Runcorn Urban District contributes no fewer than 9 deaths to the total, Dukinfield Municipal Borough 6, and Hyde Municipal Borough 5. This fact should lead to a very searching inquiry, particularly in the Runcorn Urban District.

Diarrhœal Diseases.—There are 153 deaths recorded in the Administrative County as due to diarrhœal diseases, a number much lower than that for 1908. The diarrhœal death-rate was thus .22 per thousand persons living, a figure which is greatly below the average for the past ten years. The deaths occurred as under :—

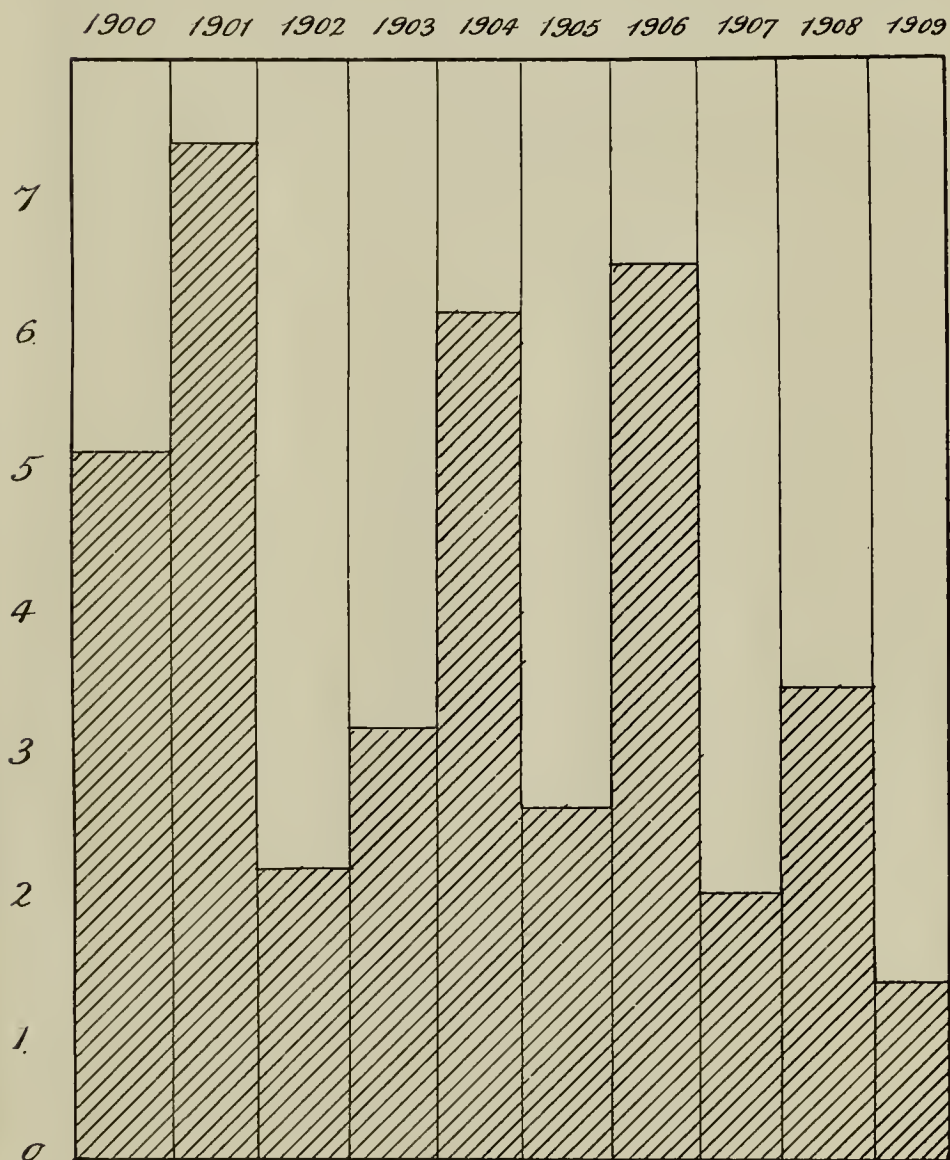
| | | | |
|--------------------------|-----|------------|-------------------------|
| 6 Municipal Boroughs | ... | 57 or 37.2 | per cent. of the total. |
| 36 Other Urban Districts | ... | 73 or 47.7 | „ „ |
| 12 Rural Districts | ... | 23 or 15.0 | „ „ |

Crewe Municipal Borough had an exceptional share of these deaths—14 in all, and Nantwich Urban District must be debited with 7 deaths from this cause. The diarrhœal death-rate in Nantwich Urban District would appear to have been the highest in the Administrative County, namely, 0.9 per thousand persons living.

There still exists some confusion as to the names used to denote diseases of a diarrhœal nature. In many death returns it is common to find gastro-enteritis or gastro-intestinal catarrh. It is therefore important to observe that neither of these terms is sanctioned in the nomenclature of the Royal College of Physicians, and it is certainly expedient

DEATH-RATE FROM DIARRHOEAL DISEASES.

———— 1900 – 1909. ————



that their use should be discontinued altogether. The simple and unsatisfactory term *Diarrhœa*, however, is gradually disappearing, and the more definite terms *epidemic diarrhœa*, or *zymotic enteritis* are taking its place. In view of the very high importance attached to diarrhœal diseases in connection with the problem of infantile mortality it is to be hoped that practitioners throughout the country will endeavour to assist those responsible for the public health by making use of the more definite terms mentioned.

Respiratory Diseases.—The chief of these are *Bronchitis*, *Pneumonia* and *Pleurisy*. The total deaths in the Administrative County during 1909 from this group of diseases were 1,583, equal to a death-rate per thousand persons living of 2.3. The death-rates from this group of diseases during the past ten years has been as follows :—

| Year. | | | Death-rate. |
|-------|-----|-----|-------------|
| 1909 | ... | ... | 2.3 |
| 1908 | ... | ... | 2.08 |
| 1907 | .. | ... | 2.2 |
| 1906 | ... | ... | 2.12 |
| 1905 | ... | ... | 2.26 |
| 1904 | ... | ... | 2.52 |
| 1903 | ... | ... | 2.22 |
| 1902 | ... | .. | 2.58 |
| 1901 | ... | ... | 2.54 |
| 1900 | ... | ... | 2.74 |

There is thus hardly any perceptible decline in the death-rate from this class of disease.

Lobar Pneumonia is now definitely placed by the Royal College of Physicians amongst infective diseases, and for a good many years there has been a tendency amongst all connected with preventive medicine to regard every form of *Pneumonia* as infective. From certain figures collected by the Registrar-General it would appear that the mortality from *Pneumonia* is greater in town than in country districts by more than 75 per cent. In general the mortality of males greatly exceeds that of females, and amongst children under the age of 5 years *Pneumonia* is particularly fatal.

Epidemic Influenza.—During 1909 there occurred 141 deaths in the County as the direct or indirect result of this disease.

Influenza is stated to have been epidemic in Congleton in February, March and April, and although only five deaths are returned as directly due to this disease, probably many deaths were indirectly caused by Pneumonia following it.

In Crewe also Influenza would appear to have been prevalent to a rather severe degree, for 19 deaths are directly ascribed to it. The Report of the Medical Officer of Health, however, contains no facts beyond these.

Influenza was rather prevalent at the beginning of the year at Cheadle and Gatley.

This disease was also very prevalent in Hazel Grove during the beginning of the year and later on in the year tended to recur

In Mottram and Longdendale Urban District Influenza is said to have been prevalent during March.

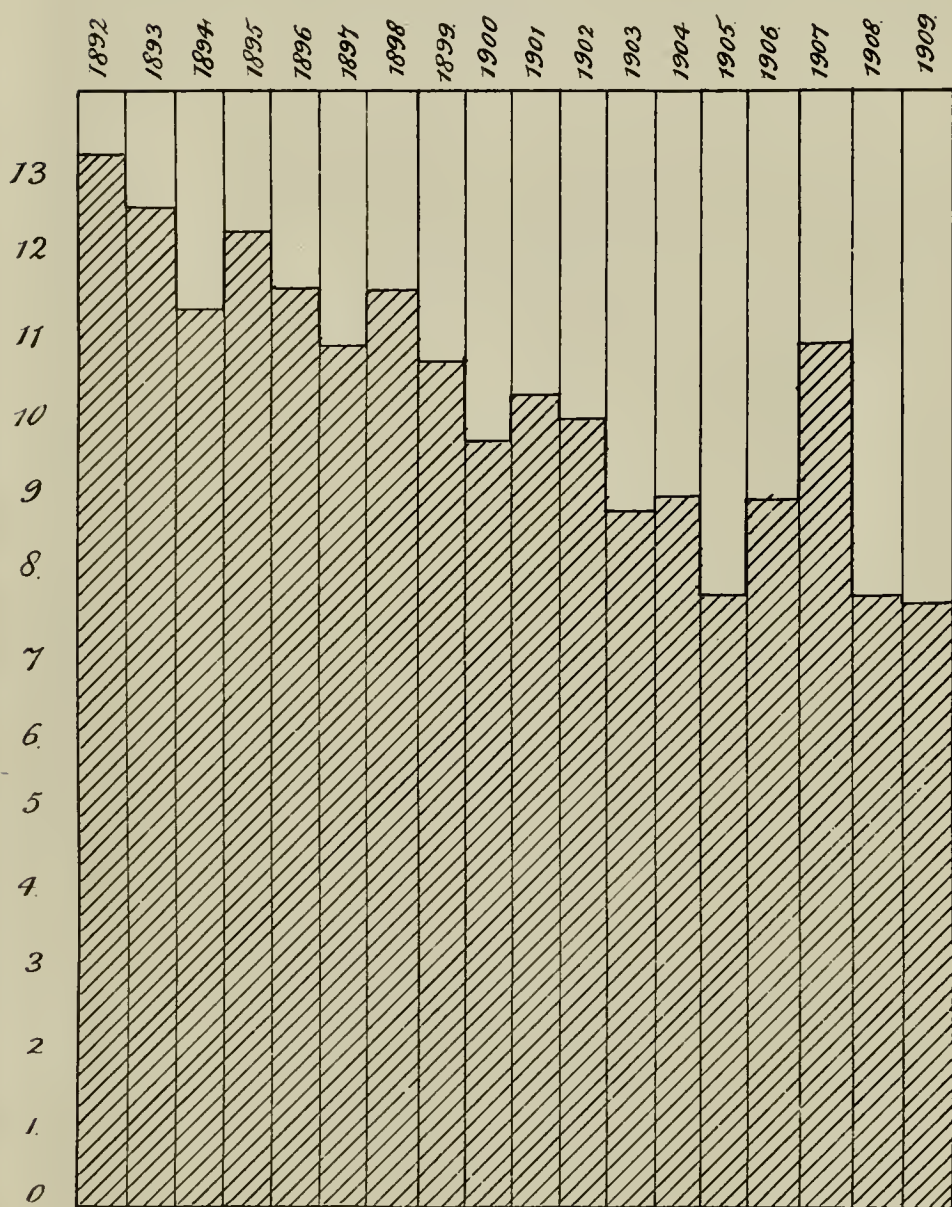
There were two deaths at Neston and Parkgate specifically ascribed to Influenza, and in addition eight deaths from Pneumonia associated with Influenza.

Heart Diseases.—The number of deaths ascribed to the various forms of heart disease in the Administrative County during 1909 was 892, a number equal to a death-rate per thousand persons living of 1.3. The six Municipal Boroughs are to be debited with 284 of these deaths, the 36 other Urban Districts with 380, and the 12 Rural Districts with 228.

Pulmonary Phthisis.—This disease claimed no fewer than 509 victims during 1909 in the Administrative County, a number equal to a death-rate of 0.74 per thousand persons living. This is the lowest recorded rate for the County since the year 1892—as far back as I am able to obtain records. As the matter is one of very considerable interest, I append the rates for the County of Cheshire and for England and Wales as far as the latter are within my reach.

| Year. | England and Wales. | | County of Cheshire. | |
|-------|--------------------|-------|---------------------|------|
| 1892 | ... | — | ... | 1.31 |
| 1893 | ... | — | ... | 1.25 |
| 1894 | ... | — | ... | 1.12 |
| 1895 | ... | 1.426 | ... | 1.22 |
| 1896 | ... | 1.327 | ... | 1.14 |
| 1897 | ... | 1.356 | ... | 1.09 |
| 1898 | ... | 1.325 | ... | 1.14 |

DEATH-RATES FROM PHTHISIS (PULMONARY CONSUMPTION) 1892-1909.



| Year. | England and Wales. | | County of Cheshire. | |
|-------|--------------------|-------|---------------------|------|
| 1899 | ... | 1.339 | ... | 1.06 |
| 1900 | ... | 1.337 | ... | 0.95 |
| 1901 | ... | 1.264 | ... | 1.02 |
| 1902 | ... | 1.233 | .. | 0.97 |
| 1903 | ... | 1.203 | ... | 0.86 |
| 1904 | ... | 1.236 | ... | 0.89 |
| 1905 | ... | 1.140 | ... | 0.76 |
| 1906 | .. | 1.150 | .. | 0.89 |
| 1907 | ... | 1.140 | ... | 1.08 |
| 1908 | ... | — | ... | 0.76 |
| 1909 | ... | — | ... | 0.74 |

The death-rate from Phthisis may therefore be said to be not far from being only half as great as it was 18 years ago. The decrease has been fairly gradual and steady throughout, and there is thus some hope of its continuance, provided there is no relaxation in the public and private efforts which are being made on all hands for the control of this provedly preventible disease.

There are still some loose terms used in death certificates for tuberculous conditions, and the old name "*tabes mesenterica*" is particularly to be noted. This name had now been expunged from the nomenclature of the Royal College of Physicians, and it is to be hoped that the use of the name will before long be abandoned by practitioners.

The study of the nature of Tuberculosis still proceeds apace, and opinions continue to be trimmed and variously coloured; but the main points, as known now to all the reading public, remain as clear and defined as they have been for ten years or more. The views of the late Prof. Koch, which were looked upon as heterodox if not worse, have not affected practice to any material extent, and indeed Koch himself made clear his position at the International Tuberculosis Conference at Washington, in 1908. To quote from a Report by Dr. R. W. Philip, of Edinburgh, on this point:—

"In practically applying his conclusions, Koch does not minimise the significance of the bacillus of bovine type in relation to preventive measures against tuberculosis as it occurs in cattle. His point is that, while it is doubtless desirable to limit and, if possible, eradicate bovine tuberculosis, yet, in respect of human infection, the prevention of bovine tuberculosis is a relatively insignificant factor as compared with the direct prevention of tuberculosis traceable to inoculation with bacilli of human type. Although

measures against bovine tuberculosis should not be neglected, preventive measures, if they are to be successful against the graver manifestations of tuberculosis in the human subject, must be directed primarily against tubercle bacilli of the human type—that is to say, against a spread of disease from person to person by way of bacillus-containing discharge. It is very desirable that the issue should be plainly stated, so that it may be effectively met. While in no sense disparaging measures directed to a pure milk supply, and generally towards the eradication of bovine tuberculosis on agricultural and economic grounds, Koch objects to these measures being unnecessarily mixed up with those directed to the prevention of the spread of tuberculous disease from man to man.”

“Considerable criticism of Koch’s views took place, but his main position was not very successfully contested. Many authorities are inclined to the view that the point has not yet been settled. There remains need for further investigations on a large scale, more particularly as to the possible occurrence of bovine tubercle bacilli in relation to human pulmonary tuberculosis.”

The rôle played by flies in the dissemination of tuberculosis begins to assume importance, for several investigators have shewn that flies caught in the open air do not contain tubercle bacilli or any bacilli which may be mistaken for them, but that flies allowed to feed on tubercular sputum excrete in their dejecta large numbers of tubercle bacilli, and this may go on even for days after the feeding. Obviously therefore food polluted by such excretions may be a source of danger: in fact guinea-pigs which eat such specifically polluted food develop tuberculosis. Flies caught in the wards of tuberculosis hospitals have been proved capable of producing tuberculosis in guinea-pigs.

Opinion is steadily growing in favour of the general compulsory notification of Pulmonary Consumption. In countries where it has been adopted it is stated that procedure is not fraught with the difficulties which were anticipated.

As to the value of Sanatorium treatment this is now beyond cavil, though many administrative details at first rigorously carried out because they were deemed an essential part of the scheme have now been considerably modified as the result of experience.

Again quoting Dr. R. W. Philip’s admirable report of the Washington Congress:—

“So far as provision of Sanatoriums for the poor was concerned, the need for simplicity in construction was recognised. Having regard to the extent of the financial problem, the call for economy was emphasised. It is excellence of medical surveillance and régime rather than grandeur of site and construction which is to be aimed at. Considerable advantage is also to be obtained by a certain flexibility in the conception of the Sanatorium, and the provision it affords for different classes of tuberculous persons. Thus, while a certain number of patients may be kept for a good many months with a view to complete arrest of disease, for others a shorter period may be sufficient, the purpose being chiefly educational, provided always that the patient's home circumstances allow him to continue the régime after discharge. For others still a daily sojourn at the Sanatorium may be sufficient, the patient returning home at night if domestic duty makes this imperative. In yet another group of cases it may be advisable to arrange sleeping accommodation for selected patients engaged in work elsewhere during the day—one of the chief difficulties of the working-man's lot being the insanitary condition of his sleeping quarters. That such elasticity of arrangement is perfectly possible has been abundantly proved by the experience of the Royal Victoria Hospital for Consumption, Edinburgh, where the aim has been to meet the varying requirements of different classes of patients. In the States, more particularly perhaps in Boston, the idea has been fulfilled by the development of so-called Day Camps and Night Camps. The chief aim of the Camp is educational. To the Day Camp the patients come at 9-30 in the morning, have dinner and two lighter meals at the Camp, and return home between 5 and 6 in the evening.”

The Camps are chiefly intended for ambulant cases of the disease which cannot enter hospitals and sanatoria.

The development of the Tuberculosis Dispensary promises a most useful means of combatting this disease amongst the poor, acting as it does “as a great receiving centre for the varying mass of Tuberculous material amongst the poor, as an inquiry centre in all matters with reference to Tuberculosis, as a centre of medical supervision for the large body of ambulant patients who must be treated at their own homes, and as a clearing-house or distributing centre for such tuberculous patients as can and should be transferred to various hospitals either for early or advanced cases.” (R. W. Philip).

In the field of preventive effort there is room both for public and private work, but these should be linked together and properly organised if the best results are to be obtained.

“The official outlook—that of the State, Municipalities, and other Local Authorities—is specially towards prevention. The philanthropic outlook is towards the care and the relief of the individual.”

“Within the official sphere falls especially the institution and direction of a scheme of notification. To the same sphere belongs dissemination of information in matters relating to the prevention and limitation of tuberculosis, and the practical carrying out of disinfection.

“Intimately related to this is the system of domiciliary visitation, which forms so important a part of the dispensary’s activity. The dispensary thus forms a link between the tuberculous poor and the authorities. I am so much impressed with the extreme significance to the community of the various operations of the dispensary, that I believe the dispensary should either be worked by the municipality or other local authority itself, or at least be in close touch with such authority.

“The more intimate the connection the better. For a large proportion of patients, and for long periods—it may be throughout the entire illness—the dispensary will take the place of the hospital in respect of care and general direction. On this account the dispensary should be closely related to, if not an actual part of, the Public Health Service.

“To the official sphere should certainly belong the hospital for advanced and dying cases. The purpose of these hospitals is entirely different from that of the sanatorium. Such cases ought to be segregated on grounds of public health and in the interest of the unaffected citizen. This is emphatically a department of the work to which public funds are legitimately devoted.

“Within the philanthropic sphere falls naturally the sanatorium for early cases. The sanatorium exists especially with a view to the effective cure of individuals at an early stage of the disease. Sanatoriums are suitably maintained by charitable effort, by contributions of patients or of private friends interested in particular patients, by working-men’s sick and benefit societies, in varying fashion, according to the varying conditions of different countries,

and by local authorities, in so far as the efforts of these can extend, after due regard has been paid to the other claims which have been cited.

“Within the philanthropic sphere fall similarly extensions of the sanatorium in the direction of working colonies, after-care associations, and the like, which may be multiplied indefinitely according as the need presents itself.

“To this sphere also belong the various voluntary agencies, associations, leagues, &c., which, as the anti-tuberculosis movement extends throughout the world, serve to effect a popular propaganda until such time as the complete organisation can be attained.

“As the *motif* for anti-tuberculosis organisation becomes better apprehended, it will gradually cease to be a matter for private initiative and enterprise. Communities will be compelled to face the matter in thorough-going fashion.

“Subject to modification dependent on local conditions, a scheme of co-operative measures must be elaborated which will recognise the *rôle* and significance of public and private effort respectively. The scheme will necessarily combine the application of sanitary principles, in the broadest sense, with more direct, offensive measures against the tubercle bacillus. This implies the co-operation of public health authorities, local authorities and legislators.

“With regard to the economic aspect of tuberculosis, it was recognised that the burdens entailed by tuberculosis on individuals, on families, on industries, on relief agencies, and on the community generally might be greatly lightened by the attainment of effective control of tuberculosis. The State and municipal Governments and the departments of the public health were urged to participate more actively in the campaign against tuberculosis. Existing associations for the relief of sick persons, insurance and sick societies, and similar organisations were likewise invited to co-operate.

“The wider aspects of prevention by increase of the resisting power of the individual and the community were not forgotten. The part played by improved sanitation in every department of life was freely recognised. It was recalled how the legislation of the past three-quarters of a century, notably in England, with regard to the dwellings of the poor, lodging-houses, workshops, factories, and other

public health enactments had paved the way for the more direct attack. Through the influence of such measures the mortality from tuberculous diseases had been lessened in the same way as that from other infective conditions. The progressive decline in the death-rate in the pre-bacillus period thus found its explanation. There was a strong consensus of opinion that the housing question, using that phrase to include all considerations relating to dwellings, lodging-houses, schools, workshops, factories, offices, &c., must occupy a chief place in the preventive programme against tuberculosis." (R. W. Philip).

The second interim report of the present Royal Commission has just been issued. It contains *inter alia* the following conclusions, which are of profound importance in the present connection, and which are therefore reprinted here *verbatim*.

"There can be no doubt" say the Commissioners, "but that in a certain number of cases the tuberculosis occurring in the human subject, especially in children, is the direct result of the introduction into the human body of the bacillus of bovine tuberculosis; and there also can be no doubt that in the majority at least of these cases the bacillus is introduced through cows' milk. Cows' milk containing bovine tubercle bacilli is clearly a cause of tuberculosis, and of fatal tuberculosis, in man."

"A very considerable amount of disease and loss of life especially among the young, must be attributed to the consumption of cows' milk containing tubercle bacilli. The presence of tubercle bacilli in cows' milk can be detected, though with some difficulty, if the proper means be adopted, and such milk ought never to be used as food. There is far less difficulty in recognising clinically that a cow is distinctly suffering from tuberculosis, in which case she may be yielding tuberculous milk. The milk coming from such a cow ought not to be used as food at all."

"Our results clearly point to the necessity of measures more stringent than those at present enforced being taken to prevent the sale or the consumption of such milk."

The following is an extract from a leaflet circulated by the State Board of Health of Maine (U.S.A.), which contains some interesting and novel directions to the phthisical patient:—

Four great facts should cheer every worker in the crusade against tuberculosis; should cheer every person in whose family there have been cases of tuberculosis; and should cheer every person whose physician tells him that he has tuberculosis.

1. Tuberculosis is not hereditary.—That is proved. It is merely communicable from the sick or from rooms and things that the sick have infected. Children born of tuberculous or consumptive mothers do not have tuberculosis if they are immediately removed from their mothers and from tuberculous homes. Again, in animal industry, tuberculous cows may be used for raising a herd of animals free from tuberculosis, provided their calves are immediately removed from their mothers and fed on milk which does not come from tuberculous animals. Again, persons whose parents, or brothers or sisters have died of consumption gain just as rapidly as others when given sanatorium or other suitable treatment, and their chances of final recovery are just as good.

2. Tuberculosis is an infectious disease.—This is a very encouraging fact because an infectious disease is a preventable disease. There is, however, practically no danger of catching the disease from momentary or short periods of exposure to the infection, as is true of some other diseases. The careless consumptive patient is a serious source of danger to all other persons in the family or in the house with him. The intelligent and careful patient who follows faithfully the instructions which are given to him by his physician is almost absolutely free of danger. *To illustrate, a person living in a properly conducted sanatorium filled with tuberculosis patients is in less danger of contracting the disease there than he would be under ordinary home and social conditions.*

3. Tuberculosis is preventable.—As small-pox, diphtheria, typhoid fever, and other infectious diseases are preventable and are now largely controlled and prevented, so is tuberculosis preventable. We are now having in this State about 500 fewer deaths from tuberculosis every year than we should be having if the death-rate from this disease were as high as it was in 1892.

4. Tuberculosis is curable.—This is a strong argument in favour of finding out early whether you have tuberculosis, and, if you have, of putting yourself under treatment early whether the treatment is to be in a sanatorium or under the supervision of your family physician. While better results for most patients may be obtained in a sanatorium, if sanatorium treatment is available, there is no reason for discouragement if you cannot go, because good results may be obtained in many cases under home treatment if the patient religiously carries out every detail of the sanatorium methods at his own home.

And now, reader, if you have tuberculosis you are the man "over-board." Whether you sink or swim depends very much upon you, yourself. Anyway, you need a life preserver, and if you have one it must be built out of the material which you will find in the following six brief rules.

1. If your physician thinks you have tuberculosis, recognize the fact that he knows more than you do about the matter, and think yourself fortunate if you can begin treatment early.

2. Follow carefully directions about rest and exercise. Over exertion retards recovery and is dangerous to tuberculous persons.

3. Sleep in the open air. Live in the open air. Be in the open air all the time. Dress so you will be comfortable in so doing. Then the extreme cold of winter will help more rapidly to cure you than the summer's warmth.

4. Discard pies, cakes, preserves and the like. Live on plain food, strengthening—bread, butter, meat, vegetables, eggs, and much milk. Your doctor will tell you further.

5. Beware of patent medicines and advertised cures for consumption and cough. They will rob you of your money and lessen your chances of recovery.

6. Do not swallow what you spit up. It is very dangerous for you to do so, for it will further infect you. Do not let what you spit up get on anything, clothing, bedding, or floors. Spit into burnable spit-cups so that the spit-cups and their contents can be absolutely destroyed by fire. Do not let flies carry the infectious matter of your sputum to the food for you or others. Wash your hands in soap and water quite frequently and keep them free from infection. Soiled fingers and flies are dangerous distributors of infection. This sixth rule is very important for your safety and for the safety of other persons.

Specific inquiries were forwarded to all the districts in the Administrative County early in 1910 in order to ascertain what steps were being taken in the matter of the prevention of Consumption. The questions and replies are tabulated and submitted herewith. It is hoped that a more complete statement will be available next year.

| | | | Any system of notification. | Any sanitary inspection of Patients' houses. | Any disinfection of ditto. | Any distribution of advice. | Any action re spitting. |
|-------------------------|-----|-----|--------------------------------|--|-------------------------------|--------------------------------|---|
| Municipal Boroughs— | | | | | | | |
| Congleton | ... | ... | No. | Yes. | Yes. | No. | No. |
| Crewe | ... | ... | Voluntary. | Yes. | Yes. | Yes. | No. |
| Dukinfield | ... | ... | Information not furnished. | | | | |
| Hyde | ... | ... | Voluntary. | Yes. | Yes. | Yes. | No. |
| Macclesfield | ... | ... | ... | ... | ... | ... | ... |
| Stalybridge | ... | ... | No. | Yes. | Yes. | Yes. | No. |
| Other Urban Districts— | | | | | | | |
| Alderley Edge | ... | ... | Yes. | Yes. | Yes. | Yes. | Yes. |
| Alsager | ... | ... | No. | Yes. | Yes. | Yes. | Sputum cups & anti septics provided. |
| Altrincham | ... | ... | Information not furnished. | | | | |
| Ashton-upon-Mersey | ... | ... | No. | No. | In case of death. | No. | No. |
| Higher Bebington | ... | ... | Information not furnished. | | | | |
| Lower Bebington | ... | ... | No. | Yes. | Yes. | Verbal. | No. |
| Bollington | ... | ... | No. | Yes. | Yes. | Yes. | Yes. |
| Bowdon | ... | ... | No. | Yes. | Yes. | No. | No. |
| Bredbury and Romiley | ... | ... | No. | Yes. | Yes. | Yes. | No. |
| Bromborough | ... | ... | Information not furnished. | | | | |
| Buglawton | ... | ... | No. | No. | No. | No. | No. |
| Cheadle | ... | ... | No. | No. | When re- quested. | No. | No. |
| Compstall | ... | ... | No. | No. | Occasionally. | No. | No. |
| Ellesmere Port & Whitby | ... | ... | No. | Yes. | Yes. | Yes. | No. |
| Hale | ... | ... | No. | Yes. | Yes. | Yes. | No. |
| Handforth | ... | ... | Information not furnished. | | | | |
| Hazel Grove & Bramhall | ... | ... | Information not furnished. | | | | |
| Hollingworth | ... | ... | Information not furnished. | | | | |
| Hoole | ... | ... | Voluntary. | Yes. | Yes. | Verbal. | No. |
| Hoylake | ... | ... | No. | Yes. | Yes. | Yes. | No. |

| | | | Any system of notification. | Any sanitary inspection of Patients' houses. | Any disinfection of ditto. | Any distribution of advice. | Any action <i>re</i> spitting. |
|------------------------|-----|-----|--|--|-------------------------------|--------------------------------|--------------------------------------|
| Other Urban Districts— | | | | | | | |
| Knutsford | ... | ... | Information not furnished. | | | | |
| Lymm | ... | ... | Information not furnished. | | | | |
| Marple | ... | ... | No. | Yes. | Yes. | Yes. | Sputum cups & anti-septics provided. |
| Middlewich | ... | ... | Information not furnished. | | | | |
| Mottram | ... | ... | Information not furnished. | | | | |
| Nantwich | ... | ... | Voluntary. | Yes. | Yes. | Yes. | Yes. |
| Neston and Parkgate | ... | ... | No. | Yes. | Yes. | Yes. | No. |
| Northwich | ... | ... | No. | Yes. | Yes. | Yes. | No. |
| Runcorn | ... | ... | Information not furnished. | | | | |
| Sale | ... | ... | Information not furnished. | | | | |
| Sandbach | ... | ... | No. | No. | No. | No. | No. |
| Tarporley | ... | ... | Information not furnished. | | | | |
| Wallasey | ... | ... | No. | Yes. | Yes. | Yes. | Notices exhibited in public places. |
| Wilmslow | ... | ... | No. | No. | No. | No. | No. |
| Winsford | ... | ... | No. | In case of death only. | | | No. |
| Yeardsley-cum-Whaley | ... | ... | No. | No. | No. | No. | No. |
| Rural Districts— | | | | | | | |
| Bucklow | ... | ... | No. | Yes, on occasion. | Yes, after death. | Yes. | No. |
| Chester | ... | ... | No. | No. | No. | No. | No. |
| Congleton | ... | ... | No. | Yes, if known. | Yes, on death. | Yes. | No. |
| Disley | ... | ... | No. | No. | No. | No. | No. |
| Macclesfield | ... | ... | Information not furnished. | | | | |
| Malpas | ... | ... | No. | No. | No. | Yes. | No. |
| Nantwich | ... | ... | No. | Yes. | Yes. | Yes. | No. |
| Northwich | ... | ... | No. | Yes. | Yes. | Yes. | No. |
| Runcorn | ... | ... | Voluntary, On re- without fee. quest. | | | No. | No. |
| Tarvin | ... | ... | Information not furnished. | | | | |
| Tintwistle | ... | ... | Information not furnished. | | | | |
| Wirral | ... | ... | Information not furnished. | | | | |

Procedure in the matter of the prevention of Phthisis in this County is but in an elementary stage, as may be gathered from a perusal of the following notes taken from the Annual Reports of the District Medical Officers of Health.

In 1906, the Crewe Corporation applied to the Local Government Board to have Phthisis made a compulsorily notifiable disease, but were not able to obtain sanction. It was therefore decided to request the medical men of the town to notify cases voluntarily, and to admit suitable cases into an empty ward at the Isolation Hospital. Early in 1909 the use of the empty ward was discontinued, and an open revolving shelter to contain two beds was erected in the Hospital grounds. Private cases were treated in this shelter

during 1909, and with the exception of one patient who only remained 3 days on account of the severe weather, these patients stayed for periods varying from 4 to 12 weeks. Leaving out the case which was only in the shelter for 3 days great improvement was recorded in 4 of the cases, slight improvement in one, and very little change in condition in the other. The last named, however, was an advanced case in which the larynx was affected, but even in this case after approximately one month's treatment the weight was found to have increased by 4 lbs. Enquiries into the after history of these cases elicited the fact that one had since died (the laryngeal case), the second was well but not working, and the remainder were following their regular employment.

A system of voluntary notification of this disease is in force in Hyde, but during 1909 only 8 cases were so notified. In every case the house was visited and careful instructions given as to the prevention of the disease.

In the Urban District of Alsager cases of Phthisis coming to the knowledge of the Local Authority are advised to be isolated as far as possible, particularly as regards the other inmates of the house, provided with sputum cups, and the necessary antiseptics, and are given advice on other matters. The houses are visited on occasion, and in case of death the premises are disinfected by the Sanitary Inspector.

In the whole of the other districts, whilst the above special measures are not carried out, no opportunity is lost of giving advice in cases where the disease is known to exist, and in the supply of disinfectants and in the disinfection of premises on the occurrence of a fatal case. In every way, therefore, throughout the County the public is being at all events prepared for more radical measures in the matter of the control of phthisis. All the above measures tend to impress upon the public the fact that the disease is a communicable one, and moreover one which is specially amenable to proper hygienic measures in the home and in the workplace. After a few years of this general education of the public, the time will no doubt become ripe for compulsory notification and compulsory carrying out of certain preventive measures.

Details of special inquiries made into the history of Phthisis cases are contained in the Report of the Wallasey Medical Officer of Health (Dr. T. W. N. Barlow). Continued for a few years these will furnish most valuable data as to the causation of the disease and the factors influencing its incidence and progress.

Quite recently a new Phthisis Sanatorium was opened at Clatterbridge in connection with the Wirral Union Workhouse. The building, which is a one-storey one, was erected at a cost of about £1,200, and is a corrugated iron structure on brick foundations, the ceiling, floors and walls being lined with asbestos slabs. The building will accommodate 12 male and 12 female patients. The wards are well heated, lighted by electric light, and special means of ventilation are everywhere provided.

Other Tubercular Diseases.—In this group one includes tuberculosis affecting the lymphatic glands, bones, meninges or covering membrane of the brain, the peritoneum or lining membrane of the abdominal cavity, and tuberculosis of general systemic distribution. During 1909 there were 300 deaths ascribed to one or other of the above-named diseases, a number equivalent to a death-rate of 0.42 per thousand persons living. This is a slight decrease on the figures for previous years, for in 1908 the rate was 0.47, in 1907 it was 0.46, and in 1906 it was 0.47.

Cancer and Malignant Disease.—There were 589 deaths due to these various forms of disease during 1909—a number equal to 0.86 per thousand persons living.

The number of deaths varied from 167 in the 6 Municipal Boroughs to 272 in the 36 other Urban Districts and 150 in the 12 Rural Districts. Statistics in this County are only available as far back as 1900. It is not possible to give what is termed the corrected cancer death-rate, *i.e.*, the proportion of deaths from cancer to persons aged 35 years and upwards (in which class of person about 95 per cent. of the total deaths occur). The deaths are therefore perforce expressed as a rate per thousand of the total estimated populations. The figures are as follows:—

DEATHS PER 1,000 OF THE ESTIMATED POPULATION.

| Year. | | Cheshire. | | England and Wales (approximate figures). |
|-------|-----|-----------|-----|---|
| 1900 | ... | 0.70 | ... | 0.82 |
| 1901 | ... | 0.90 | ... | 0.83 |
| 1902 | ... | 0.74 | ... | 0.84 |
| 1903 | ... | 0.79 | .. | 0.86 |
| 1904 | ... | 0.79 | ... | 0.87 |
| 1905 | ... | 0.77 | .. | 0.88 |
| 1906 | ... | 0.85 | ... | 0.90 |
| 1907 | ... | 0.83 | ... | — |
| 1908 | .. | 0.84 | ... | — |
| 1909 | ... | 0.86 | ... | — |

Certain facts stand out clearly from the mortality figures given by the Registrar-General (Supplement to 65th Annual Report).

In the decennium 1891-1900 the death-rates from cancerous disease at all ages and in both sexes averaged 758 annually per million persons living, thus exceeding by nearly 26 per cent. the average death-rate in the preceding decennium. From the year 1851 down to the present time cancer has shown a steady and persistent increase. Females have throughout the whole of this period suffered more severely than males, in fact during the years 1891-1900 the mortality from cancer was $1\frac{1}{2}$ times as great in females as in males. This excess of mortality in females occurs only after the age of 25 years, and is heaviest between that year and the 55th year of life. It is accounted for entirely by the large number of deaths from cancer of the female generative organs and of the breast.

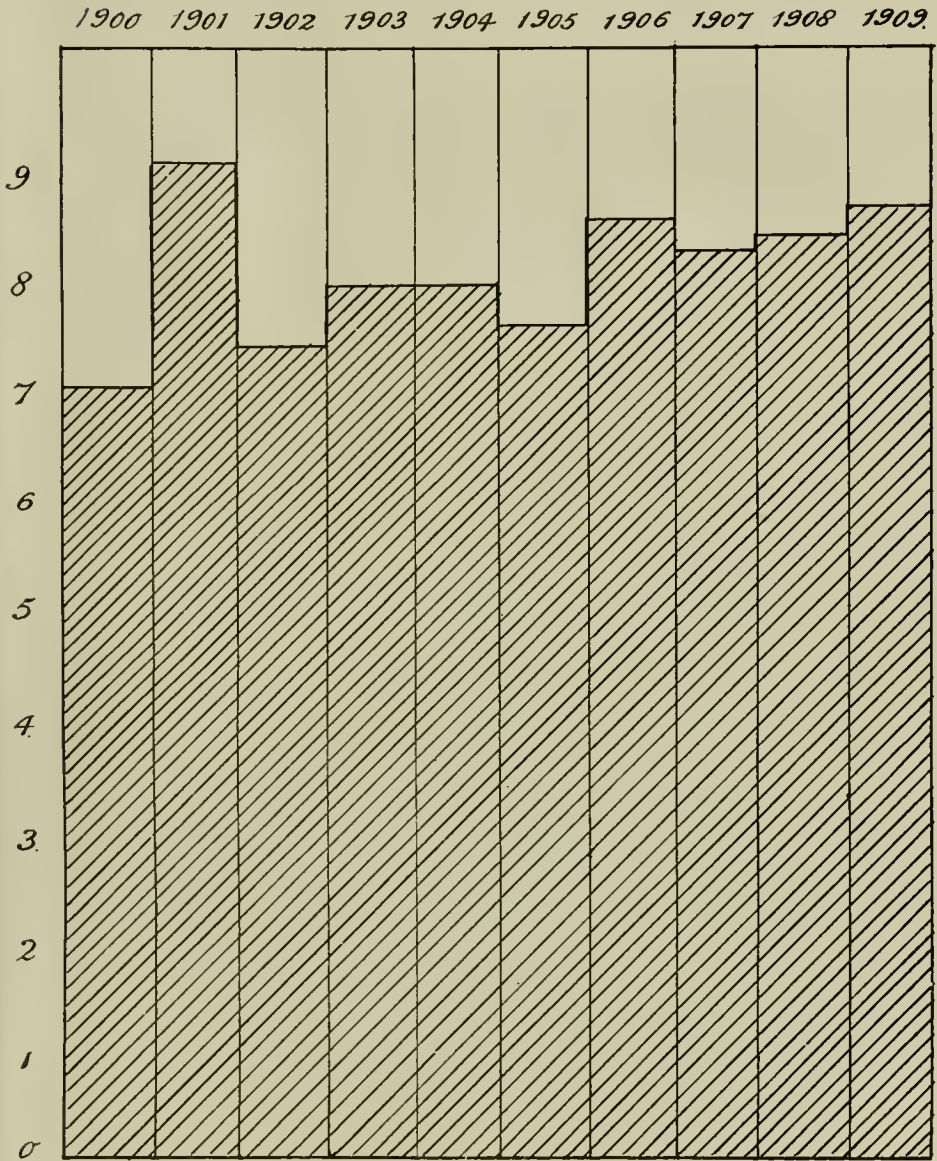
During the 40 years 1851-1900 the cancer death-rate amongst males has trebled and amongst females it has doubled. A large amount of this increase is due to the more frequent detection of cancer as the result of operation or of post mortem examination,—in other words to the more favourable opportunities for correct diagnosis available in recent years.

Haviland has asserted that cancer is a disease prone to occur more in lowlying, flooded and clayey areas, and has instanced the Thames Valley as a typical cancer district in all respects. His view is that it is caused by a parasite probably connected with the soil. D'Arcy Power's experiments, however, with soil of the nature described by Haviland, mixed with cancerous tissues were entirely negative. Moreover, cancer is prevalent in the higher lands of Mexico and Norway. The views of Haviland, therefore, have not received support sufficient to warrant their adoption.

As regards local incidence of this disease during the periods 1881-1890 and 1891-1900, the mean annual death-rates for both sexes in England and Wales were respectively 1,834 and 2,316 per million persons aged 35 years and upwards. The highest figures during the decennium 1881-1890 were reached in the following Counties:—

| | | | |
|-----------------|-----|-----|-------------------|
| London | ... | ... | 2252 per million. |
| Huntingdonshire | ... | ... | 2133 „ |
| Cambridgeshire | ... | ... | 1996 „ |
| Sussex | ... | ... | 1979 „ |
| Warwickshire | ... | ... | 1960 „ |

DEATH-RATES FROM CANCER AND MALIGNANT — DISEASE. 1900-1909. —



The figure for Cheshire during this period was 1,765 per million.

During the decennium 1891-1900 the highest figures were:—

| | | | |
|-----------------|-----|-----|-------------------|
| London | ... | ... | 2759 per million. |
| Huntingdonshire | ... | ... | 2682 „ |
| North Wales | ... | ... | 2477 „ |
| Northumberland | ... | ... | 2451 „ |
| Warwickshire | ... | ... | 2438 „ |
| Cambridgeshire | ... | ... | 2419 „ |
| East Riding | ... | ... | 2403 „ |
| Cumberland | ... | ... | 2403 „ |

The corresponding figure for Cheshire was 2,339. Cheshire during the last decennium was tenth highest in the list out of 45 Counties. The lowest figures were for:—

| | | | |
|-----------------|-----|-----|-------------------|
| Staffordshire | ... | ... | 2098 per million. |
| Derbyshire | ... | ... | 2089 „ |
| Dorsetshire | ... | ... | 2024 „ |
| Buckinghamshire | ... | ... | 1995 „ |
| Wiltshire | ... | ... | 1996 „ |
| Monmouthshire | ... | ... | 1874 „ |

Two of the neighbouring Counties, Staffordshire and Derbyshire, thus present much more favourable returns than Cheshire. The other neighbouring Counties—West Riding of Yorkshire and Shropshire—have mortality figures for 1891-1900 of 2,169 and 2,326 respectively.

Amongst males the seat of this disease is most frequently the stomach (21 per cent. of the total deaths recorded during 1901-8): the liver and gall bladder are invaded in 13 per cent. of the whole, the rectum in 10 per cent., and the intestines in 8 per cent. Taken together the parts here specified are attacked in more than half of the fatal cases. Amongst females the generative organs and the breast are affected in more than two-fifths of the total fatal cases, and a further two-fifths of the total are contributed by affections of the stomach, liver, intestines and rectum taken together. (Seventy-first Annual Report of Registrar-General).

The term “Cancer” to most laymen means an abnormal growth in some part of the body which involves more or less

protracted illness accompanied by emaciation and great suffering and almost always ends in death. The general public fail to distinguish until too late in most cases the initial symptoms and signs of cancerous growths. Whether or not a simple swelling or tumour or ulcer or abrasion of the skin or lining membrane of the mouth or stomach or other cavity of the body can gradually acquire a cancerous nature, or whether all cancerous growths are actually cancerous from their very beginning is not yet settled. But what is settled is that cancerous growths at their commencement, if recognised as such and if within the reach of the surgeon (and there are exceedingly few regions of the body which are not now within his reach) can be extirpated and their growth or extension to other parts of the system prevented. What appears to be required, therefore, in the first instance is that the general public shall be educated to a better knowledge of the initial symptoms of Cancer, or of what are termed "pre-cancerous conditions," so that they may, without becoming obsessed with this one idea, take timely precautions to prevent the disease when present from becoming too firmly rooted for successful treatment to be adopted. A few words on this aspect of the subject may therefore not be out of place. The present knowledge of the subject only admits of advice being given in a more or less general manner. Cancer is ubiquitous in the sense that it may attack any organ of the body. Certain parts of the body, however, are usually the subject of primary attack, and from these the disease spreads into other and more remote parts. The spread of the Cancer may be merely by increase in size, or it may be by the carriage of infection through the main blood-vessels or through the secondary blood-vessels (or lymphatics). The following extracts from a lecture by Prof. F. M. Sandwith, M.D., F.R.C.P., Gresham, Professor of Physic, delivered quite recently, put certain aspects of the case so simply yet so forcibly that everyone may gather useful lessons from them:—

"The germs from which cancers arise exist in epithelial cells. Cancers are almost invariably tumours, of which the essential elements all belong to only one single tissue, the epithelial, so that it is quite rare to find other tissues, such as cartilage or bone, represented in them.

[Epithelial cells are those which form the outer layers of the skin and of the lining of the mouth, throat, stomach, intestines and other cavities of the body. They also form the lining of the channels or ducts in the liver, pancreas, kidney, &c.]

"Cancer begins as a small single nodule, which increases in size, penetrates the surrounding structures, and finally destroys

them completely. It has a power of regular increase, which we do not know how to stop. It relentlessly, but slowly, attacks wider and wider areas, without any regard to the requirements of that special part of the body, or of the body as a whole. The word "malignant" is in itself a relic of the superstition of the middle ages, for it was then applied to certain fatal diseases, because our ancestors believed that such diseases were due to the special influence of evil or malign spirits. The malignancy of cancer concerns us chiefly by means of its persistent dissemination, and the consequent recurrence of the disease, even when all that is visible to the naked eye has been removed by the surgeon. It has therefore become necessary in operations upon cancer to remove not only the part affected but the neighbouring lymph glands, which may possibly be already attacked, though they do not show any signs of it. As the disease continues a tumour is formed after a time, which grows and is nourished like a normal part of the body. Yet this tumour contributes nothing in return for the nourishment expended upon it. It is a true and dangerous parasite. The recurrence I have mentioned is dependent upon some small speck, which has been left behind, which easily forms a new centre of disease. The dissemination of the disease may extend to remote parts, for instance, cancer in the intestines causes secondary cancer, not only in neighbouring glands, but also in the liver. If the disease is left to itself the patient almost always dies. Debility or cachexia attacks him, and after a period varying from one to five years he dies of exhaustion. Although a diagnosis of cancer seems almost tantamount to a death sentence to the friends of the patient, yet this need not inevitably be the case. Putting aside, for the moment, radium treatment for superficial cancer, all authorities agree in insisting, wherever possible, upon the early and radical removal of a cancer by the surgeon, and where this has been done, and where there has been no recurrence for three years, we may regard that case as a cure. But of all diseases cancer is the most contradictory, and it is impossible to formulate axioms which are not at times at variance with facts. The endeavours that are being made to fathom the mystery of this disease have not been fruitless, though at present the results appeal chiefly to experts, but you may be sure that the efforts of many great minds will, in time, solve the mystery. We shall not then begrudge the time and work expended if the number of victims of cancer, which at present stands at the high figure of 30,000 annually in England and Wales, can be reduced. At present it is an awful fact that, on an average, the chance of a man above thirty-five years of age ultimately dying of cancer is one in 11, and for a woman above the same age one in seven.

"In an Egyptian papyrus dating from the year 1500 B.C. among other medical instructions certain remedies are recommended for cancer, although it is probable that many swellings were included besides those of a malignant type. For an ulcerating cancer a certain ointment was used by the ancient Egyptians consisting chiefly of arsenic and vinegar, and this ointment continued in use till the sixteenth century.

"But a more systematic treatise on cancer can be found in the medical writings of ancient India. In a manuscript written 2000 B.C. we find instructions for the removal of cancerous growths with a recommendation to use the Egyptian ointment to prevent a recurrence of the tumour. Red hot irons were also used for this operation. As regards diagnosis and treatment, India was far in advance of Egypt, though in both countries anatomical knowledge was very limited. Until medical lore was separated from the mysticism and witchcraft which the priests, who were the only doctors, wove around it, medicine could not stand on any scientific basis. . . . It is to the Greeks that we owe this great step in advance; Hippocrates, the Father of Medicine, was the first to bring medical knowledge into relation with natural phenomena and experience. In his numerous writings he referred again and again to cancer, and it was he who first gave it the name of cancer or crab. The meaning of the word is uncertain, but there are two suggestions: it is either so called because it was thought that the veins ramifying around the affected parts were like a crab's claws, or because as anciently believed, an animal was attacking the diseased parts. The word carcinoma also used is derived from the same source, for Carcinus is Greek for crab. Sarcoma is another Greek word meaning originally a fleshy lump. . . .

"Celsus was the greatest Roman doctor of this period, and he left behind him eight books of medical lore. Though his anatomical ignorance was great . . . he made a distinction between cancerous tumours and other swellings, and described three forms of the disease.

"A hundred years later Galen (A.D. 131-203) . . . advanced the theory of *atra bilis*, or black bile, being the cause of cancer. This black bile he considered arose from melancholic humours, and he pointed out that women of a melancholy disposition were specially subject to the disease. On account of this black bile, which he wished to dispel, Galen recommended violent purges and venesection, fasting and special light diet. He reported cures effected by these means and by surgical operation. The theory of black bile as the cause of cancer persisted till the seventeenth century. . . .

"From the seventh to the twelfth century medical knowledge passed into the hands of the Arabs, whose religion originally forbade dissection of human bodies, and owing to this their knowledge of anatomy and physiology was absolutely inaccurate and based on guesswork. . . . The first Arab doctor of distinction was Rhazes, surnamed 'The Experienced' (850-923). His theories on cancer gave us nothing new; he followed blindly in the footsteps of Hippocrates and Galen. . . .

"After Rhazes came Avicenna (980-1037), the author of over 100 books, one of which, the *Canon of Medicine*, remained the standard work of the medical profession till the fifteenth century. He repeated much of what his predecessors said on the subject of cancer, but he was the first to recommend arsenic as an internal treatment for that disease, and this drug has been used almost ever since. . . .

"The School of Salerno (about 1150) had many opportunities of studying diseases at the time of the crusades, for most crusaders passed through Southern Italy, and brought with them a variety of maladies. Many doctors belonging to this School wrote about cancer, the distinction between the different growths receiving attention, but the theory of black bile caused by melancholy humours still persisted. Some recommended radical operations, others were opposed to them, and considering how unskilled the surgeons were, any serious operation must have been attended with considerable risk.

"The School of Montpellier confined itself to studying Arabic and Jewish authors, till a certain Lanfranchi was banished from the Italian School and came as a teacher to France. Surgery then came to be studied scientifically in France for the first time, and it was here that, among the ranks of barber surgeons, there arose some who made their handiwork a science and raised the art of surgery to a higher level. De Mondeville, the greatest of this School, ventured to recommend, as the only cure for cancer, radical excision, leaving not the smallest particle of infected matter behind.

"It was about this time that we hear of the first scientific doctor in England, known as Gilbert the Englishman. In his writings he also recommended excision as the best treatment for cancer. . . .

"For more than a thousand years the black bile theory of cancer had persisted, and even the greatest physicians had not

ventured to oppose it. The first man who attempted to upset these notions by introducing new, though somewhat vague and mystical theories, was Paracelsus, a German, born in 1493. He attributed cancer to a superfluity of mineral salts in the blood. His opinions and those of his successors were not of great importance, but at least we owe it to him that the theories of Galen were at that time questioned, sifted, and presently set aside.

“John Hunter, born in Scotland in 1728, exercised great influence on the schools of thought of his day. He believed that the coagulation of lymph was the cause of cancer, and he pointed out the fact that cancer tumours arose through the activity of the organism itself, that their construction was similar to normal tissues, that they lived, grew, and were nourished by the organism. His theories were an immense step in advance. He tried to arrest the growth of cancers by compressing the lymph vessels. He preached the doctrine of the necessity for studying the anatomical construction of cancer, and his teaching bore good fruit.

“A Society for investigating the nature and cure of cancer was inaugurated in 1802.

“But a new era was opened in the study of cancer and other diseases by the introduction in 1824, of a new and greatly improved microscope.

“With the aid of the microscope the cells as the elementary form in the structure of plants and animals was recognised in 1838. Schwann, a German, published a pamphlet on the analogy in the structure and growth of animals and plants. He distinguished the cell, the nucleus and the nucleolus, and understood their significance in the growth of plants. He announced that all animal tissues could be traced to a similar cell formation, and proclaimed that all new growth (or cancer) consists of an accumulation of cells. His theories were very generally accepted, and Muller, a follower of Schwann, definitely proved the cellular construction of cancerous growths.

“When these facts were established, Muller’s followers did their utmost to prove that peculiar cells were the origin of malignant growth. Various theories all based on the cell theory, were published, but the great German Professor of pathology, Virchow, dispelled them all in 1858 by inaugurating a new, more elaborate, and very skilful cell theory, the belief in which has prevailed till now in many schools. His

predecessors had tried to find the origin of new cell formation, and asked from what element in the body did they arise? He stated, "Where a cell arises there a cell must have previously existed, just as an animal can only spring from an animal, and a plant only from a plant." The cell, according to him, was the origin and foundation of all life.

"The doctrine of continuous cellular development put an end to all previous conceptions of cancer, for scientists recognised then that nothing organic could spring from any exudation, lymph, or other matter; it must arise from its living predecessor, its own ancestor.

"There are some grounds for believing that cancer belongs to those illnesses which are of parasitic origin. Clinical observation of a general nature had long ago given rise to the belief that cancer was a contagious disease. The ancients believed it to be so, as soon as it became ulcerating, and in the seventeenth and eighteenth centuries it was considered just as infectious as consumption. Even the house where a cancer patient had lived, was considered infectious, and disinfection was advised. Gradually the belief of infectious vapours proceeding from the unfortunate patient gave place to the credence of infection taking place by contact.

"This could only be proved experimentally, and the questions to solve were:—Under what conditions is cancer contagious? and of what nature is the agent which conveys the disease?

"These questions are occupying the minds of those engaged in cancer research in all countries. If these problems could be solved, the all-important question of the cause of cancer might be answered. The nature of cancer would be understood, and possibly new and effective remedies might suggest themselves.

"To prove the parasitic nature of cancer, experiments on animals, which have so often come to our assistance when other methods have failed, had to be tried. In other cases the agent of infection has generally been known first, so that by injecting the infected material into animals the nature of the disease could be further studied, but in this case we are still ignorant of the nature of the carrier, and experiments are, therefore, unfortunately based somewhat on guess-work. Peyrilhe, in the eighteenth century, tried to infect a dog artificially with cancer, but failed, and many experiments of the same kind

have been tried since. But experiments are only of value to prove the parasitic nature of a disease when the animal experimented upon produces the disease in question after injections of pure culture, or the implanting of the experimental tissue containing the living parasite. If this could successfully be done in the case of cancer the problem would, to a great extent, be solved.

"To the elucidation of this problem, the discovery of the cancer parasite, many of our greatest scientists are devoting years of patient, undaunted study. Abuse is heaped upon them by the ignorant, whose cry is that poor rats and mice are sacrificed in experiments with no results to show that the sacrifice is of material use. We believe firmly that the truth lies in the direction the bacteriologists are following, that truth will prevail, and that the labours of these workers will some day be rewarded by success.

"A fund has been instituted since 1902 for special research work on cancer, the Imperial Cancer Research Fund, of which the King is Patron, while many distinguished names are on the list of Vice-Presidents.

"Over 10,000 cases of cancer have since been reported upon by the Hospitals of Great Britain, and the number of cases from abroad is being augmented.

"The first report of the Imperial Cancer Research Fund was published in 1904, and chiefly recorded investigations of a general kind. The second report, which appeared a year later, concerned itself with existing theories and hypotheses, which were reviewed and discarded "owing to their being incompatible with the results of comparative and experimental study." Attention was also drawn to the association of cancer with different forms of irritation, for instance, the cancer of the fingers not uncommon in needlewomen whose fingers are constantly pricked, of cancer of the lips and mouth in men who habitually smoke clay pipes. Other special forms of cancer, in natives of hot countries, due to outward irritation, we will speak of later, when we come to discuss the causes of the disease.

"Three years after the second report the third one appeared, and considering the extreme caution necessary in compiling statistics and data, and the amount of information gathered from all parts of the world, the interval does not seem long. Slow progress, but sure progress is necessary to ensure

a safe basis on which to build up the experimental study of cancer.

"The conclusions arrived at in the 1905 report have now been extended to varied and extensive material "which includes seventy malignant new growths of the mouse" which can be propagated. These tumours are not only of epithelial origin but have been found to arise also in the connective tissue.

"The conclusion generally come to by the scientific advisers of the Fund is that surgical removal of a cancer should be attempted whenever possible.

"In July, 1906, an important discovery was announced from the laboratory that animals could be rendered resistant to cancerous inoculations by preliminary treatment with normal tissues, that is, the inoculation into a mouse of normal tissue before the inoculation of the experimental tumour of that tissue (skin, in the case of skin cancer, etc.) makes the mouse resistant to that infection. There are fluctuations in the rate of increase of cancer-cells, the discovery of which fact has great practical importance. There is a promise that dissemination and the formation of secondary growths in distant organs may be prevented by inoculation of normal tissues.

" "Cancer," the report tells us, "is ubiquitous in man and vertebrate animals." Cancer tissue in one species of animal is peculiar to that animal, and is not transferable to other species. For instance, the cancer of dogs cannot be transmitted to mice, and *vice versa*.

"No antitoxic or other serum with curative powers, no prophylactic vaccine has yet been produced, and there is, unfortunately, no hope to-day that this great boon will reach us. The early surgical removal of tumours is amply justified by experiments, and no substitute for this treatment has been found. The ray of hope given us in the report for the future treatment of cancer is that : "Further investigation is indicated in the direction of preventing dissemination of a malignant new growth by increasing the resistance of the organism." More than this cannot as yet be said."

One fact emerges clearly from all this, and that is the importance of the recognition of the disease at that early stage when radical surgical extirpation is possible. This early recognition is not an easy matter, but in view of the terrible possibilities of the disease he will be wise who makes

a mistake on the side of mere probability. Speaking generally any organ or tissue of the body in a person over 30 years of age which is the subject of any irritability, inflammation or derangement of function which is of frequent recurrence or which does not yield readily to simple treatment must be regarded as a possible site for the development of Cancer. Persistent dyspepsia, recurrent ulceration of the stomach, troublesome irritation of the tongue or throat, repeated occurrence of gallstones or stone in the kidney or bladder, frequent irritation of the breast in women by corsets or otherwise, continued derangement of the normal functions of the uterus, as evidenced by bleeding, &c., the chronic persistence or recurrence of hæmorrhoids or piles,—these are all conditions which sooner or later may lead to the area affected becoming the site of a cancerous growth. It may be taken that Cancer is so far allied to infectious diseases that just as the perfectly healthy throat may laugh at the diphtheria bacillus so will the perfectly healthy skin or mucous membrane throw off the possible cancer cell. The indication is thus that all organs or tissues of the body in persons of 30 years of age and upwards which are the subject of disorder or disease, however apparently simple, must be brought back to health and tone without delay if Cancer is to be averted with any degree of certainty.

In this connection an admirable circular has been drafted by the Central Midwives Board for circulation amongst Midwives as being persons who from the nature of their occupation are even more likely than doctors to have an opportunity of advising women on this vital question. This circular has been sent out to every practising midwife in the County, and it is doubtless desirable that copies of it should be also issued to all District Nurses. It gives in plain language the symptoms of commencing Cancer of the womb, and indicates all symptoms which are at all suspicious or dangerous. The “pre-cancerous conditions” alluded to precede the active stage of the disease often by several years, and during this period there is a very hopeful chance if not a certainty that thorough extirpation of the disease is possible.

Alcoholism and Cirrhosis of the Liver.—There are 83 deaths ascribed to these causes of death, namely, 28 in the 6 Municipal Boroughs, 36 in the 36 other Urban Districts, and 19 in the 12 Rural Districts. As remarked in a previous Report, however, this is no criterion of the effects of Alcoholism, for in the first place, the true cause of death is frequently not put on record, and, secondly, alcohol taken immoderately exerts an effect on practically every organ of

the human body, inducing or hastening death from many other causes than Cirrhosis of the Liver.

Premature Birth.—To this is ascribed the deaths of 252 infants during the year under review. Of these deaths, 80 occurred in the 6 Municipal Boroughs, 116 in the 36 other Urban Districts, and 56 in the 12 Rural Districts. The deaths from this cause were relatively high in the Boroughs of Crewe and Macclesfield, in the Urban Districts of Neston and Parkgate, Northwich, and Ellesmere Port and Whitby, and in the Rural Districts of Runcorn and Tarvin.

Diseases and Accidents of Parturition.—The deaths from this group of diseases amounted to 73 during 1909, a considerable increase on the number recorded for the previous year. As previously remarked one has here to consider not only the deaths but the number of women incapacitated for home and other duties by illness which in many cases might have been avoided by proper hygienic and medical treatment during pregnancy and confinement

Puerperal Fever.—The deaths from this disease numbered 9 during the year in the Administrative County, the number of cases of the disease notified to District Medical Officers of Health being 39 during the same period. The fatality rate is thus seen to have been a distinctly high one, namely, 22.5 per cent. Further allusion is made to this subject in the section dealing with the Midwives Act.

SECTION III.

Infectious Disease.—The extended Table at the end of this Report shews the number and nature of the cases of infectious disease notified in the Administrative County during 1909. There were 5,353 notifications received by the District Medical Officers of Health as follows:—

| | | | |
|---------------------------------|-----|-----|------|
| Small-pox | ... | ... | 0 |
| Diphtheria and Membranous Croup | ... | ... | 732 |
| Erysipelas | ... | ... | 406 |
| Scarlet Fever | ... | ... | 3905 |
| Typhus Fever | ... | ... | 0 |
| Typhoid Fever | ... | ... | 256 |
| Continued Fever | ... | ... | 7 |
| Puerperal Fever | ... | ... | 39 |
| Cerebro-spinal Meningitis | ... | ... | 0 |

A few cases of Phthisis were voluntarily notified in certain districts. Measles were also notified to a slight extent in a few districts where notification is in force. Records of a few instances where Whooping-cough or Chicken-pox were voluntarily reported to the Medical Officer of Health are also to be found.

Small-pox.—This disease was fortunately absent from the County during the year. Vaccination, the only certain preventive of Small-pox, as those who have personally warred against the disease know as no platform vapourer can ever know until he faces the facts in their own homes, fortunately continues to be carried out in a varying but on the whole a hopeful percentage of cases. The most that one can say is that in the event of Small-pox once more becoming at all general, as it is bound to do before very long, a considerable number of children will escape attack and a lesser number will escape death. In certain districts information is given shewing the amount of infantile Vaccination carried out, and this is summarised in the Table given herewith:—

| DISTRICT. | Success-fully Vaccinated. | Certificates of Insus-ceptibility. | Certifi-cates of Exemp-tion. | Percentage Success-fully Vac-cinated. |
|--|---------------------------|------------------------------------|------------------------------|---------------------------------------|
| Crewe M.B. | 623 | 4 | 275 | Not to hand |
| Dukinfield M.B. | 155 | 0 | 169 | 31 |
| Cheadle & Gatley U.D. | — | — | 35 | — |
| **Middlewich U.D. ... | 169 | — | 11 | 84 |
| Wallasey U.D. (July 1st, 1907, to June 30th, 1908) | 1433 | 17 | 70 | 79 |
| †Winsford U.D. | 225 | 1 | 95 | 61 |
| ††Bucklow R.D. | 1550 | 13 | 277 | 74 |

**Middlewich Urban District forms about two-thirds of the Middlewich Sub-District of the Northwich Union, and the figures relate to this area for 1908.

†Winsford U.D. forms about three-quarters of the Over Sub-District of the Northwich Union, and the figures relate to this Sub-District for 1908.

††The figures for the Bucklow Rural District cover Altrincham, Lymm, Knutsford, Wilmslow and Sale Registration Districts.

Measles.—In the Borough of Congleton an extensive epidemic of Measles began in June and continued right on to the end of August. The number of cases is not stated, but fortunately there were no deaths, although the type of the disease, according to the report, could not be said to have been very mild. Only one school was actually closed, but in regard

to the others summer holidays were commenced two weeks before the usual time.

Although the number of cases is not recorded for the Borough of Hyde, probably owing to lack of information, there were 12 deaths registered, so that the disease would appear to have been somewhat prevalent.

In the Borough of Stalybridge a number of cases came to the knowledge of the Sanitary Authority through the School Attendance Officers. There were seven deaths attributed to this disease during the year.

In the Borough of Macclesfield there were 4 deaths from Measles. Further comment is rendered impossible owing to the complete Report not having come to hand at the date of going to press.

In the Urban District of Alderley Edge both Measles and German Measles were very prevalent from April to June.

In the Urban District of Cheadle and Gatley several cases occurred. In March the disease was somewhat prevalent in the surrounding districts; and in April it had become very prevalent all over the district, being confined mostly to infants departments of Schools. In May and June the epidemic subsided somewhat, but in July broke out again in the Cheadle C.E. School, which was closed for 3 weeks. At the end of this time the outbreak died out.

There was an extensive epidemic of Measles in Buglawton early in the year, but this rapidly came to an end. Although the type of disease was comparatively mild, two deaths occurred.

There appears to have been a severe outbreak of Measles in Ellesmere Port and Whitby District, causing 14 deaths, the highest number of deaths recorded in any district in the County. No details of the outbreak are furnished, however, in the Annual Report, although a Special Report was made on the subject at the request of the Local Government Board.

In the Nantwich Urban District Measles was epidemic during the third quarter of the year and 5 deaths are reported from this cause.

In the Northwich Urban District an epidemic of Measles was accompanied by one of Mumps, and the two diseases were

so prevalent amongst the scholars of two Schools, that they were closed, with the result that the outbreak terminated.

During the early part of the year Measles became epidemic in the Sale Urban District, and continued until July. Nine deaths are recorded as having been due to this disease.

In the Wallasey Urban District Measles was the cause of no fewer than 13 deaths. The disease was very prevalent in Poulton just before the summer holidays, and in the autumn also became prevalent in Seacombe and Liscard. The Infants' Departments of 5 schools were closed owing to the recurrence of the disease amongst the scholars. Enquiries into the deaths from Measles which are always made in this district tended to show that home conditions were the determining factor in deciding the ultimate issue of the attack in the majority of instances. It is stated to be uncommon to find a death from Measles occurring in a better class house. The Lady Inspector visits as many of the cases coming to the knowledge of the Medical Officer of Health as is possible.

Although the matter does not receive special allusion in the report of the Medical Officer of Health it is apparent from the death returns that 6 deaths have occurred in the Wilmslow Urban District from Measles, which must have been prevalent in an unusual degree.

In the Bucklow Rural District several small and localised outbreaks occurred, and occasionally schools were closed by the Managers for short periods. The Medical Officer of Health gives some details of an outbreak which occurred at St. Alban's School, Broadheath. Here a concealed case had occurred in October in a baby under school age, but in a house from which 3 scholars came. The next case was reported 10 days later, and 3 days later still 8 cases were brought to his notice. It appeared likely that a further crop of cases might be expected in about 14 days, and therefore a closing order was issued covering this period. During the time the school was closed the Head Mistress accepted service under the Council and visited all known cases every day, enquiring as to new cases, and advising as to general treatment of sick children and isolation of contacts, &c. In all 41 cases occurred, but the outbreak rapidly died down, and what is of much greater importance no deaths were recorded. This method of procedure is one which it will be well for other local authorities to copy. Dr. Garstang very rightly emphasizes the point that visitation of the houses and daily supervision of the cases and contacts is a matter of the very highest importance in controlling the spread of the disease.

Measles was very prevalent at Hassall, in the Congleton Rural District in January and February, and at Swettenham in April; 5 deaths are recorded from this disease in the whole district.

Measles is stated to have been fairly prevalent in the Runcorn Rural District, although only 3 deaths have occurred from it.

Although no special comment is made upon the question the fact of 9 deaths from Measles having been recorded in the Tarvin Rural District would appear to point to a somewhat severe or extensive outbreak.

An outbreak of Measles combined with Mumps occurred at Crowden, in the Tintwistle Rural District, in the latter part of February, but prompt closure of the school concerned resulted in the outbreak dying out.

Whooping-cough.—The Reports do not contain much information about this disease. Indeed it appears to have been but little prevalent during 1909.

In the Cheadle and Gatley Urban District several cases occurred, and prompt school closure resulted in fairly rapid subsidence of the outbreak.

A large number of cases occurred during the first quarter of the year in the Nantwich Urban District, and one death is recorded.

Whooping-cough was very prevalent in the Runcorn Rural District and caused 3 deaths.

Scarlet Fever.—Scarlet Fever occurred to a slightly greater extent than usual in the Congleton Borough, there being 27 cases notified during the year. The disease was of a mild type, and it was often difficult to say whether the diagnosis was correct.

Scarlet Fever although never excessively prevalent in Crewe was nevertheless prevalent to a greater extent than is desirable. 149 cases were notified, but no deaths are recorded. Out of these 149 cases no fewer than 137 were removed to Hospital. The greatest number of cases notified during any one month was 26 during August. There are 4 "return cases" alluded to in the Report of the Medical Officer of Health, this in spite of the careful treatment carried out

before discharge from the Hospital. A number of Hospital Authorities are now abandoning the practice of giving a disinfectant bath immediately before the child is discharged, and it might be well if the Crewe Authorities were to consider whether some such measure should not be adopted for their hospital cases.

In the Borough of Dukinfield there were 147 cases of Scarlet Fever notified, but it is somewhat remarkable that only 2 deaths have occurred. In July, 1909, the Medical Officer of Health was authorised by the Council to carry out a method of treatment of this disease by inunction with eucalyptus oil, and by treatment of the throat with an antiseptic application. The results of this treatment are given in the Annual Report, and although these results have not been continued for a sufficiently long period to warrant conclusions being drawn from them, the continuation of the method for a further period of 12 months may bring forth some definite facts. The County Medical Officer of Health would advise steps being taken to ensure the antiseptic throat applications being carried out more effectually and under supervision. Most authorities are now agreed that too much stress is laid on the skin as a source of infection, and that much better results will probably be obtained by greater attention being paid to the nose and throat, and to such articles as are likely to have been contaminated by nasal and throat discharges.

In the Borough of Hyde Scarlet Fever was somewhat unusually prevalent during August, September and November, there being 141 cases reported. 113 of these cases were removed to Hospital.

In the Borough of Stalybridge 150 cases occurred, the disease being throughout of a fairly mild type, so mild in many cases that no medical assistance was called in.

In the Borough of Macclesfield 173 cases were notified and 119 were removed to Hospital. One death occurred. The absence of the complete Report at the date of going to press renders further comment impossible.

Scarlet Fever was somewhat prevalent also in the district of Alderley Edge, 31 cases being reported. The Infants' School was closed during March and again during July. 21 cases were sent to the Baguley Hospital, and most of the others would also have been isolated, but for the fact that the Hospital was full at the time.

In the Urban District of Altrincham there were 131 cases of Scarlet Fever notified during the year, but the Annual Report of the Medical Officer of Health does not contain any details of the outbreak further than to say that "there has been a considerable epidemic of Scarlatina this year."

In the District of Lower Bebington there were 123 cases of Scarlet Fever reported, and 116 of these were isolated in Hospital. No details of the outbreak are furnished in the Report of the Medical Officer of Health.

Twenty-five cases of Scarlet Fever occurred in the Urban District of Bollington, and 21 of these were isolated in the Macclesfield Borough Hospital. A special report was made by the Medical Officer of Health, the general purport of which was that the greater number of cases occurred in children attending Water Street School. At this school the drains were in a bad condition, and the rooms and staircases were wanting in cleanliness, probably owing to the fact that the building is in almost constant use both during the day and evenings, Sundays included. The school was closed, the rooms thoroughly washed and disinfected, and the drains put in order.

In the District of Ellesmere Port and Whitby 79 cases of Scarlet Fever were reported, and out of these 42 were removed to Hospital. It is stated that the cases were for the most part very mild, and the increase in the number of cases appears to have been due to the prevalence of the complaint in the neighbouring districts.

Scarlet Fever was very prevalent in Hoole Urban District, especially during the latter part of the year, there being 96 cases reported altogether. These 96 cases occurred in 70 houses. This outbreak was clearly due to an extension of an epidemic which had existed in Chester and the surrounding districts during the greater part of the year. Twelve of these cases were removed to the Chester Isolation Hospital, and doubtless more would have been removed had the accommodation been available.

Scarlet Fever was prevalent to a somewhat unusual degree in Marple Urban District, the High Lane part of the District being particularly affected. Owing to the expense of isolation in Hospital as many cases as possible were detained at home under supervision by the Inspector and by the District Nurse, whose services were specially engaged for this purpose. The cases for home isolation as distinct from Hospital isolation were carefully selected.

In the Urban District of Middlewich there were 58 cases of Scarlet Fever notified, but some doubt appears to have existed as to the correctness of the diagnosis in some instances. Several cases were only discovered when in the 'peeling' stage, and on at least one occasion such a child was found in School. Under the circumstances it is somewhat fortunate that the epidemic did not attain greater dimensions.

The epidemic which prevailed in Mottram Urban District during 1908 was continued into the early part of 1909. Schools were kept closed until after the Christmas holidays until February 8th, and by that time the outbreak had practically ceased.

Nantwich Urban District seems to have had an unusual share of Scarlet Fever, namely, 67 cases. As in other parts of the County the disease was of a very mild type, and in many cases medical men were not called in.

The same story falls to be told about the Sale Urban District, where 66 cases of this disease occurred, with only one fatality. With this exception all the cases were mild, and most of them were undiscovered in the first instance.

In the Urban District of Wallasey during April an exceptionally large number of cases of Scarlet Fever were reported, but as has been the experience in practically all districts in the County, the disease has been of the mildest type as exemplified by the fact that out of a large number of cases admitted to the Hospital only 2.7 per cent died. There did not appear to have been any special cause at work and no particular district was selected for invasion. Missed or unrecognised cases were here, as elsewhere, the principle danger. A keen lookout was kept on milk supplies and schools, but without resulting in the detection of any general cause of infection. Dr. Barlow expresses the opinion that cases for admission to the Isolation Hospital should be selected with great discrimination, as it is often found that parents are only too glad to get their children into the Isolation Hospital out of their way. He is of opinion that it is a mistake to send mild uncomplicated cases of Scarlet Fever to Hospital, when reasonable isolation can be provided at home. In his view mild cases isolated in Hospital are apt to develop bad throat symptoms and rhinitis, while some develop a second attack of the disease of greater intensity even than the first.

Dr. Garstang remarks of the Winsford Urban District that the whole district has been "saturated" with Scarlet

Fever during the year in continuation of the outbreak which raged so severely during 1908. No fewer than 420 cases are recorded in this small Urban District. From June to July the epidemic showed signs of slight abatement, but about this time, although it had been only slightly prevalent in Wharton up to this date, it began to increase heavily in this part of the district. Twice during the year removal to Hospital was impossible owing to overcrowding. During the latter part of the year the Council engaged a Nurse to act as a sort of Health Visitor, to visit infected houses. Her work proved of the greatest value.

In Bucklow Rural District a moderate sized epidemic occurred, affecting chiefly Partington and Carrington, the infection having been introduced from Cadishead some time previously. One of the cases thus imported had run its course without being recognised, until the second case occurred. In all there were 156 cases notified with 4 deaths.

In the Chester Rural District there were no fewer than 134 cases of Scarlet Fever reported, this being no doubt a consequence of the exceptional prevalence of the disease in the City of Chester.

In Congleton Rural District the same tale is to be told as in most of the other districts in the County, namely, that Scarlet Fever occurred to a rather unusual degree, and on a certain series of cases breaking out in the children attending Elworth Schools, the Medical Officer of Health found two or three children suffering from Scarlet Fever in the 'peeling' stage.

In the report of the Macclesfield Rural District allusion is made to 84 cases of Scarlet Fever, several of which contracted the disease whilst visiting popular health resorts, whilst one series of 9 cases was largely due to parental carelessness.

In the Nantwich Rural District 109 cases of this disease occurred, 31 of these being in Willaston, a batch of cases breaking out amongst the boarders of Willaston College in February. It appeared probable that some teacher or member of the teaching staff had brought the disease back after the Christmas vacation. A slight outbreak at Warmingham in June was apparently caused by the spread of infection from the Congleton Rural District.

In the Rural District of Northwich a somewhat heavy prevalence of Scarlet Fever is recorded, namely, 148 cases.

Of these 59 cases were removed to Hospital. Five Schools in the District were closed on account of Scarlet Fever, as it had been found that several 'peeling' cases had been attending School.

Scarlet Fever also appears to have been unusually prevalent in the Runcorn Rural District, 138 cases being notified. The chief outbreaks occurred in Frodsham (46 cases), and Stockton Heath (21 cases). It is stated that the disease appeared to be of a severe type, although only 3 deaths occurred in the 138 cases reported.

Diphtheria.—In the Congleton Municipal Borough 11 cases of Diphtheria were notified, but the cases always occurred sporadically, and generally with an interval of about a month between them.

The Borough of Crewe has suffered very severely from Diphtheria during the year 1909, there having been no less than 121 cases notified, a number which is 55 over the average yearly number since notification began. Amongst these 121 cases there were seven deaths recorded. Altogether 98 cases were isolated in the Borough Hospital. It is stated that the disease did not show much tendency to spread until August, when six cases were reported, four of these occurring in the Boys' Department of the Hightown Council School. The number of notifications then rose rapidly to 16 in September, 29 in October, 24 in November, and 21 in December. Of the 121 cases notified, 76 occurred in school children, whilst a number of the other cases contracted the disease from personal infection by contact with other members of the family. The majority of the cases were detained in Hospital for about four weeks, but owing to the persistence of the infection many of them were detained beyond that period. The Corporation, in addition to the usual measures of isolation, disinfection, bacteriological examination, etc., have for some years also provided antitoxin free of cost for those people who are too poor to be able to pay for it. During the year, 276 vials each containing 2,000 units were provided in this manner.

Although it does not properly belong to the year under review, it may be stated that the Crewe Corporation have now appointed a Temporary Assistant to the Medical Officer of Health for the purpose of assisting in the investigation of the causation of this illness, and it is hoped that enquiry may result in the discovery of the root cause of the outbreak. In the Abstract of the Medical Officer of Health's Report the number of cases of Diphtheria is given, and it will be seen that with the single

exception of the three years 1901-2-3, the number of cases reported during 1909 has never been approached since notification began.

In the Lower Bebington Urban District there were 27 cases of Diphtheria reported in 1909 ; and all but one of these were isolated in Hospital.

In Sale Urban District 11 cases of Diphtheria occurred, three of these having a fatal termination.

In the Wallasey Urban District there were 57 cases of Diphtheria notified, and of this number nine died. The prevalence of Diphtheria has been rather above the average of previous years, but the cases were all scattered in a sporadic manner. Dr. Barlow urges the early administration of anti-toxin, and the giving of a sufficiently full dose.

In the Winsford Urban District, Diphtheria, which had been prevalent to an unusual extent during 1907 and 1908, almost died out to all intents and purposes during 1908, there being only 25 cases reported during that year.

In the Chester Rural District 71 cases occurred, but no details as to the outbreak are furnished in the Report of the Medical Officer of Health.

A satisfactory decrease in the number of cases of Diphtheria is reported from the Macclesfield Rural District, there being only six cases as compared with 24 during the previous year.

In the Rural District of Nantwich 48 cases of this disease were notified, and it is not too much to say that but for the vigilance of the Medical Officer of Health a serious outbreak might have occurred. In one of these outbreaks occurring in the Township of Dodcott, Dr. Turner was informed by telephone of two cases of Diphtheria at one house, and one case in each of two other houses. Enquiry elicited the fact that the only thing in common between these houses was the milk supply. Visitation rendered these suspicions much stronger, and on the farm from which the milk was obtained being inspected, a little boy was discovered, a visitor, who was suffering from sore throat. Examination of this throat rendered Dr. Turner very suspicious that he was a recovered case of Diphtheria. The throat of the farm manager who had put up the milk for the customers was also examined, and in his case also slight evidence of sore throat was manifest. These two suspected persons were at once isolated,

and specimens taken for bacteriological examination, whilst the sale of milk from the farm was discontinued. Bacteriological examination proved both cases to be true Diphtheria, and accordingly the removal of both to the Isolation Hospital was arranged. Shortly afterwards notification of two fresh cases were received, one of these being in the originally infected house and another in a fresh house. As one of these cases was in the house of the Schoolmaster of the National School, the School was closed for a short time.

Diphtheria was again somewhat prevalent in the Runcorn Rural District, 37 cases with 5 deaths coming to the knowledge of the Medical Officer. The prevalence of this disease for successive years is very unsatisfactory, and no definite explanation of it is forthcoming.

A considerable number of Local Authorities now supply Diphtheria Antitoxin free of charge to necessitous cases—a most commendable measure from the public health point of view. There is by no means a sufficient use made of this reagent as a prophylactic, however, and one earnestly desires to see it much more used for this purpose.

Typhoid Fever.—In Stalybridge Municipal Borough 25 cases of this disease were notified during the year, a number somewhat in excess of the average for the previous five years. The majority of the premises associated with these cases were provided with the old-fashioned privy, and the Medical Officer, probably quite rightly, attributes the spread of the disease to the existence of these privy middens.

In Macclesfield Borough 24 cases were notified, and three deaths occurred.

Runcorn Urban District presents a record of 68 notifications of Typhoid Fever and seven of Continued Fever, a number far greater than any other District, Urban or Rural, in the whole County. The Medical Officer of Health appears to think that the disease was imported at the outset, but even granting this the record of Runcorn in respect of this disease is highly unsatisfactory, for it is a circumstance not exceptional in the year 1909, there having been 74 cases reported during 1908 and 46 during 1907. This town is well sewered, and there is no apparent reason why the abominable privy-midden system should not be resolutely attacked, and the number of these disease-disseminating structures considerably reduced.

In the Urban District of Wallasey there is a remarkable drop in the number of Typhoid cases reported. Although 18 cases were notified, 5 were subsequently found on Hospital observation not to be Typhoid Fever.

In the Bucklow Rural District an outbreak of Typhoid Fever occurred at the David Lewis Epileptic Colony, which was specially investigated on several occasions by the Medical Officer of Health. In order to discover the cause of this outbreak, bacteriological examinations were undertaken on an extensive scale. In the first instance all suspected cases were examined, then every individual, whether inmate or not, working in the cow-shed or dairy; then everybody connected with the kitchen department was examined. Finally a number of miscellaneous individuals from the house where the largest number of cases occurred were examined, but despite all this examination, no proof was ever obtained that a true "carrier case" had occurred, and the origin of the outbreak was never discovered with certainty. There was a suspicion that pollution of the water-supply used for washing milk cans at the Farm on the Colony had occurred, but this was never definitely proved. It would be difficult to institute a more searching enquiry into the cause of any outbreak than was undertaken on this occasion, for it was pushed so far, for instance, as bacteriological examination of some of the drugs used in the Dispensary. The outbreak was of great seriousness not merely to the Colony itself, but also to the town of Knutsford, inasmuch as the sewage disposal works of the Colony closely adjoin the Pedley Brook which forms part of the water-supply to Knutsford. Happily no infection of this brook apparently took place.

In the Macclesfield Rural District four cases of Enteric Fever occurred in one house, the disease being imported into the district by a groom who infected his brother. The two first cases were promptly removed to Hospital, but five weeks later another brother, two years of age, was found suffering from the disease, and in this case the parents would not sanction removal to Hospital. Probably as a consequence of nursing this disease the mother became infected a month later. The Medical Officer of Health regrets very much that it was impossible to secure an examination of the blood in these cases. Efforts were made to this end but without result.

Puerperal Fever.—There were 39 cases of this disease notified in the Administrative County during 1909. With the exception of Winsford, where 9 cases occurred, there was no special incidence of the disease.

In the Borough of Crewe 5 cases of this disease were notified, 4 occurring in the practice of registered midwives. Two cases occurred in the practice of one midwife, and the circumstances appeared to point to carelessness and neglect of the Rules of the Central Midwives Board. The matter was referred to the Local Supervising Authority, and after consideration by them was sent up to the Penal Cases Committee of the Central Midwives Board, who administered a severe censure.

In the Winsford Urban District there were 9 cases of this disease notified with 2 deaths. The first of these died on the seventh day, and the same midwife was found to have attended another case without medical assistance 10 days earlier. This was notified 10 days after she had ceased attendance. No fault on her part, however, was proved. In another case attended by another midwife the record of the midwife was not so favourable, for she had had 3 cases in a little over a year. No carelessness or neglect on her part, however, could be proved. In another case attended by still another midwife, the record was again somewhat unsatisfactory, as she had been connected with three previous cases. The same woman was connected with 3 further cases during the same year, and despite the most careful enquiries, nothing further than a bare suspicion could be reached.

In the Nantwich Rural District one case of this disease was reported in Spurstow, which was unfortunately fatal. The house was found to be internally in a very dirty condition, and externally the premises were far from sanitary.

SECTION IV.—Administration.

Isolation Hospitals.—The hospital accommodation for infectious disease, including small-pox, which exists at the present time in the Administrative County, is as follows :—

Altrincham Urban District—Lloyd's Fever Hospital, and a temporary hospital for small-pox. A new hospital to replace Lloyd's Hospital is now almost complete.

Bucklow Rural District and Alderley Edge, Ashton-upon-Mersey, Hale, Knutsford, Sale and Wilmslow Urban Districts—45 beds in the Manchester Corporation (Baguley and Monsall) hospitals for infectious diseases, other than small-pox, and 10 beds for small-pox.

Congleton Rural District, Congleton Municipal Borough, and Alsager, Buglawton, and Sandbach Urban Districts—A temporary hospital for small-pox at Arelid. The Congleton Joint Hospital Board have recently completed a modern hospital at West Heath, near the Borough of Congleton.

Crewe Municipal Borough—Crewe Isolation Hospital, to which a pavilion for diphtheria was added a few years ago, and a small farm house and corrugated iron building for small-pox cases. Revolving shelter for Phthisis.

Hyde Municipal Borough—Hyde Isolation Hospital, completed in 1905, and a temporary hospital for small-pox.

Hollingworth and Mottram Urban Districts and Tintwistle Rural District—A temporary hospital.

Lymm Urban District—A new hospital erected in 1904.

Macclesfield Municipal Borough—A hospital, which is in part permanent and in part temporary, and another for small-pox. Two cottages were purchased in 1904 for isolating small-pox "contacts" and "suspects."

Macclesfield Rural District—A temporary hospital for small-pox. Arrangements are made for the use of 14 beds in Macclesfield Borough Isolation Hospital.

Nantwich Rural District and Nantwich Urban District—A new hospital was opened on October 11th, 1906. It provides 20 beds for patients, and is situated at Worleston. There is also a temporary hospital for small-pox at Ravensmoor.

Northwich Rural District and Northwich, Winsford and Middlewich Urban Districts—A new hospital was completed in 1905. Northwich Rural District some time since provided a temporary hospital at Marbury which is now used for small-pox, since other diseases are isolated at Davenham Hospital. Northwich Urban District and Winsford Urban District have each provided a temporary hospital.

Runcorn Rural District—A new isolation hospital was completed in 1905. There is also a hospital for small-pox at Moore.

Runcorn Urban District—Runcorn Isolation Hospital:
No provision for Small-pox.

Wallasey Urban District—Wallasey Isolation Hospital,
lately enlarged, and temporary hospital for Small-
pox.

Wirral Rural District and Higher Bebington, Lower
Bebington, Bromborough, Ellesmere Port and
Whitby, Neston and Parkgate, Hoylake and West
Kirby Urban Districts use the Spital Hospital, to
which a new pavilion was added a short time ago.
A hospital at Greasby is available for Small-pox.

The Joint Hospital for the use of the Borough of Congle-
ton, Congleton Rural District, Alsager, Buglawton and Sand-
bach Urban Districts is now in excellent working order.

Crewe Isolation Hospital has maintained its good reputa-
tion for useful work. The Report of the Medical Officer of
Health contains a complete statement of income and expen-
diture relating to this Hospital for the current year, which
will doubtless be of considerable assistance to Authorities about
to embark upon the construction of an Isolation Hospital, as
well as being useful for comparative purposes as regards cost
of upkeep, &c., to existing hospitals.

The Borough of Dukinfield is not provided with an
Isolation Hospital of its own, but has an arrangement with the
Borough of Hyde for 4 beds, 2 for small-pox and 2 for other
infectious cases. It is stated that there has never been any
difficulty in arranging for more cases to be admitted. All
small-pox cases are sent to Hospital, and cases of other infec-
tious diseases are sent at the discretion of the local authority.

In the Isolation Hospital belonging to the Borough of
Macclesfield, certain beds are reserved for neighbouring
Authorities, as follows:—2 in the Small-pox Hospital, reserved
for Bollington; 14 in the General Isolation Hospital, reserved
for Macclesfield Rural District; and 4 beds in the General
Isolation Hospital reserved for Bollington Urban District.
This leaves only 22 beds for the Borough in the General Hos-
pital and 10 in the Small-pox Hospital. The total population
of the districts served by these two Hospitals is, including the
Borough of Macclesfield, 56,545. As there are only 52 beds
in the Small-pox and General Isolation Hospital taken to-
gether, it is clear that the accommodation provided is too
little. Moreover, 12 out of the 52 beds are in the Ducker

Hospital, which is a very old pavilion, and not as well adapted as it should be for the treatment of patients.

The Hyde Infectious Diseases Hospital receives patients from a considerable number of districts, and appears to be running a risk of cramping the accommodation which should be reserved for its own population.

Some few districts—Ashton-on-Mersey Urban District, Bowdon Urban District, Cheadle and Gatley Urban District, Knutsford Urban District, Sale Urban District, Wilmslow Urban District, and Bucklow Rural District have all, it will be seen, made “arrangements” entitling them under certain circumstances to the use of a limited number of beds in the Baguley Sanatorium.

Other districts use Hospitals outside the Administrative County at Chester, Chinley, Stockport, Monsall, Ashton-under-Lyne, Heaton Norris, and Salford under a somewhat similar “arrangement.” Handforth Urban District and Disley Rural District are without Isolation Hospital accommodation, and appear to have no “arrangement” with any other local authority.

I have personally inspected almost all the Isolation Hospitals in the County, and the following are some notes of observations relating to accommodation and administration.

Crewe Isolation Hospital.—This Hospital consists of 4 permanent pavilions, 1 for Scarlet Fever, 1 for Typhoid Fever, and 1 for observation purposes. There is also a discharging block provided, attached to the Laundry Block, where a Washington-Lyons disinfector is fixed, and a Mortuary is also provided. The Laundry is furnished with electric power. There is no refuse cremator. The Hospital is lighted by electric light, and the sewage is received into the Corporation sewers. Fire extinguishing apparatus is furnished throughout the Hospital. The boundary fence is a brick wall on 3 sides, and corrugated iron on the other.

Nantwich Joint Hospital.—This is situated at Alvaston. There are 3 permanent pavilions, and on another side there is a temporary pavilion for Small-pox. The permanent pavilions are, one for Scarlet Fever, one for Diphtheria, and one which is used for Typhoid Fever or observation purposes. There is a discharging block, but no porter’s lodge. The administrative block contains 11 bedrooms. There is laundry, mortuary, ambulance shed, &c., provided, and a

Washington-Lyons disinfecter. The Laundry is not provided with power. The Hospital is lighted by oil lamps. The sewage runs into the Urban District Council's sewers. Chemical fire extinguishers are provided in the pavilion and in the administrative block. The boundary fence is a brick wall on 3 sides, and 7ft. wooden fence on the other side.

Chester Isolation Hospital.—This Hospital situated at Sealand is used by the City of Chester, the Chester Rural District Council, Hoole Urban District Council, and the Joint Hospital Board of Tarvin, Malpas, and Tarporley. There are 5 permanent pavilions, and 1 corrugated iron observation block. The pavilions are apportioned to Scarlet Fever (2 pavilions), Typhoid Fever (1 pavilion), Diphtheria (1 pavilion) and for observation purposes (1 pavilion). There is also a discharging block. The administrative block is well arranged, and is furnished with 18 bedrooms. There is no porter's lodge. The Laundry is not provided with power. There is a Washington-Lyons steam disinfecter, a mortuary, with viewing and post-mortem rooms, ambulance shed and refuse cremator. The Hospital is lighted with electric light, and the sewage passes into the Council's sewers. The boundary fence is a brick wall. Fire extinguishing apparatus is provided all over the Hospital and fire chutes are fitted in the administrative block.

Hyde Borough Hospital.—This Hospital consists of Administrative Block, 4 Main Pavilions, and Small Pavilion for observation cases; Laundry Block, with Steam Disinfecter attached; Mortuary separate; small Discharging Block, used at date of visit for Nurses from Scarlet Wards to change their dresses before coming into Administrative Block. The Pavilions are arranged as follows:—

Two pavilions, Scarlet Fever, 32 beds in 4 wards.

Typhoid Pavilion, 10 beds in 2 wards.

Diphtheria Pavilion, 10 beds in 2 wards.

Observation Block, 2 small wards with separate offices.

Discharging Block, 2 small rooms and bath-room.

Total number of beds, 54—Scarlet, 32; Typhoid, 10;
Diphtheria, 10; Observation, 2.

In Hospital at the present date (18th February), 26. Water-supply, Council's mains. Sewage goes into Council's sewers. Brickwork, drainage, general arrangement of ground, etc., good. Woodwork poor throughout all pavilions. Floors particularly

bad, composed of red deal, with somewhat rough surface. The moulding to take the place of skirting boards has shrunk badly, also several of the door frames. Plaster-work cracked, and broken off in a number of places near moulding and door-frames. Decorations poor throughout, distemper peeling off and several ceilings dirty. Several attempts to repair dilapidated places unsuccessful.

Administrative block good size; floors of all passages and several rooms, which are composed of wood blocks, in good condition. Special arrangements for fire extinguishing consist of small hose-van kept in Ambulance Shed, and Chemical Extinguishers elsewhere. National Telephone and private installation to individual blocks. Present staff, 10 nurses and 10 maids. Medical Superintendent, Dr. Bennett. Matron, Miss Priestley.

West Heath Joint Isolation Hospital.—The Authorities which have joined in this scheme are Congleton Municipal Borough, Congleton Rural District Council, Buglawton Urban District Council, Sandbach Urban District Council, Alsager Urban District Council, and Biddulph Urban District Council (Staffordshire).

The Hospital consists of Administrative Block, two large and one small pavilion, discharging block, disinfectory, boiler house, etc.

The nominal accommodation is for 30 beds, but slightly more than this number of beds can be accommodated in an emergency. There is no resident porter now (February 9th, 1910), so the Porter's Lodge is fitted up with six beds for the reception of cases for isolation and observation.

The large block is used for Scarlet Fever, the next largest for Typhoid Fever, and the small block is meant for an isolation block, but is used somewhat indiscriminately for Diphtheria or Typhoid Fever.

There have been 51 cases admitted for treatment since August 7th, 1909, when the Hospital was first opened for the reception of patients, up to February 9th, 1910, the date of my inspection.

The whole building is well planned, and apparently well and economically managed. The sewage is pumped up for disposal by means of filtration through a slate bed, a coarse cinder filter, a fine cinder filter, and a shallow finishing filter composed of about a foot and a half of sand, and a foot of fine cinders. The site

being a very flat and low-lying one, the fall of the drains has had to be somewhat economically managed, and in the man-hole nearest the disposal works the flow is decidedly sluggish. Some attention will probably be needed here before long. The effluent discharges into the Loach Brook, which runs through Somerford Park. Medical Officer, Dr. Lowe; Matron, Miss Griffin.

Wallasey Isolation Hospital.—The Administrative Block is a large Block with well equipped kitchen, nurses' dining and sitting rooms, servants' hall, larders, usual appurtenances, six single and 12 double bedrooms for nurses and maids, and four bathrooms.

Four Patients' Blocks.—Block 1, in two halves, seven beds in one half being used for Typhoid Fever and seven in the other half for Diphtheria.

Block 2.—Two large wards, with a day-room opening off each end used for convalescent Scarlet Fever. Total, 20 beds. The patients admitted into this block from the acute ward have their clothing disinfected, and are bathed on admission. None with ear discharge or nasal discharge are admitted.

Blocks 3 and 4.—Both used for acute Scarlet Fever. Block 3 contains 30 beds and Block 4, 24 beds. Each of these are modern blocks with day-rooms at each end and usual offices, &c.

Discharging Block consists of relatives' waiting room, undressing and dressing-room and bath-room. The bath-room is not used, as it is regarded as unwise to give the children a bath immediately before going out.

Laundry.—Large and well equipped. Separate department of Laundry for Officers' clothing, &c. Machinery power driven. Disinfector—two Lyons Disinfectors, rather small in size. Special heating or drying apparatus ensuring that mattresses, &c., after disinfection, shall be rapidly dried and quickly returned to infected houses. One room in a separate building set apart for fumigation of hair mattresses, beds, &c. Adjoining the disinfector are two Lancashire boilers for the provision of steam to disinfector and laundry, and for providing hot water to the wards, house, &c. At the back of the disinfector there is a day-room for the use of the disinfectors, who have their meals there, and keep their cloaks, &c., there. Two bedding vans and one ambulance, and stabling for one horse. Mortuary, two slabs with glazed-off viewing room.

Water-supply from Council's deep wells, which are about 900 feet deep, and also from Liverpool supply.

Sewage taken into Council's sewers, and then into the River Mersey. Private telephone connecting all wards and laundry, &c., with Administrative Block.

Proposal on foot to spend about £300 in building out from one of the existing blocks a small observation ward for isolation of intercurrent infectious disease or serious complications. Money already voted.

Runcorn Rural District Council.—Isolation Hospital, Dutton.—Erected, 1905. Consists of Porter's Lodge, Administrative Block, Discharge Block, Block containing Laundry, Mortuary, Thresh Disinfecter, Stabling for 1 horse, harness room and ambulance shed; Scarlet Fever Block, Combined Block for Diphtheria and Typhoid, small Block for Acetylene Gas Plant, Administrative Block containing Matron's Room, Nurses' Dining and Sitting Rooms, Larder, etc., and 11 Bedrooms. Six of these bedrooms are very small ones.

The Scarlet Fever Block contains two wards with accommodation for 5 beds in each. The cubic space of each ward works out to about 2,000 cubic feet for 4 beds, and 1,000 cubic feet for the remaining beds, so that the wards really will accommodate 4 adults and 1 child each.

The Diphtheria Ward can contain 3 beds and 1 cot.

The Typhoid Wards, which are built on to the Diphtheria Ward, are two in number, each accommodating 2 beds.

At the date of my visit (February 22nd) there were 15 Scarlet Fever patients in Hospital, but no Diphtheria and no Typhoid. Two patients were discharged on this day, so that on February 21st the Scarlet Fever Wards contained 17 patients as against 10 for which proper cubic space is available. The Matron informed me that for some time they had had to refuse patients.

The present employees consist of Matron, Ambulance Driver (who lives at the Lodge), 1 Staff Nurse, 1 Assistant Nurse, 1 Probationer and 3 Maids. A Laundress come in for two days each week.

Some trouble has been experienced with the acetylene gas in the nature of smoky flames, and bad smells.

In the Administrative Block a large number of the walls are very damp, probably owing to defective flashing or slating, or absence of throating on window-sills.

Water-supply from public mains (Liverpool Vyrnwy supply); Sewage Disposal Works, a private installation, situated in a field near Hospital.

Medical Attendant, Dr. Bower, Field View, Stretton, about $4\frac{1}{2}$ miles away. Matron, Miss Wolfenden. Nearest Station, Preston Brook, 1 mile away.

Davenham Joint Hospital.—This Hospital is used by the Northwich Urban and Rural Districts and Winsford and Middlewich Urban Districts. Consists of Porter's Lodge with Discharging Block attached; Administrative Block; Diphtheria Block, 6 beds; Typhoid Block, 6 beds; Scarlet Fever No. 1 Block, 18 beds; 2 large Wards and 2 small ones; Scarlet Fever No. 2 Block, meant for isolation of convalescent cases, 10 beds, 4 in each of 2 large Wards and 2 in single Wards, No. 2 Block being decorated at time of visit. Scarlet Fever No. 1 Block then contained 34 patients. Administrative Block, 15 bedrooms and usual other rooms, also power Laundry, Alliot & Paton Disinfector, Mortuary and Ambulance Sheds. Staff consists of Matron, 10 Nurses and 8 Maids, with 1 Porter.

The site is fenced round by a post, rail and wire fence 4 feet high, this being a double fence with a space of about 4 feet in between.

Matron, Miss Lumley; Medical Attendant, Dr. Moreton, The Beeches, Middlewich. Water-supply from Rural District Mains. Sewage disposal is by means of a private installation, which was in a very bad state of repair at the time of my visit: is now being entirely remodelled.

Wirral Joint Hospital.—This is situated at Spital, about $1\frac{1}{2}$ miles from Spital Station. The districts using it are the Wirral Rural, Holylake, and West Kirby Urban, Neston and Parkgate Urban, Higher Bebington Urban, Lower Bebington Urban, Bromborough Urban and Ellesmere Port and Whitby Urban. There are 4 permanent pavilions for Scarlet Fever, Typhoid Fever and Diphtheria respectively. The administrative block is shortly to undergo some reconstruction. There is a porter's lodge and refuse cremator, but no discharging block, the patients being bathed in the bath-room adjoining the wards. There is a mortuary, steam disinfector, ambulance sheds and

laundry, the latter not being provided with power. The hospital is lighted by oil lamps. The sewage is treated on the spot by means of cinder filters, the effluent finding its way through land to the brook adjoining. Fire extinguishing apparatus of the latest pattern, including hose and hydrant is provided. The boundary fence consists of a wall on one side, and double iron railings on the other sides. Medical Attendant, Dr. Garson.

Baguley Sanatorium—Bucklow Rural District.—This Sanatorium is the property of the Corporation of Manchester. There is accommodation for about 120 patients, Scarlet Fever, Typhoid Fever, Diphtheria and observation cases. There is a porter's lodge, large administrative block, large pavilions for Typhoid, Scarlet Fever and Diphtheria, and an 8 bed isolation block. Laundry, disinfectant and mortuary are separate. The water-supply is from the West Cheshire Waterworks Co. The sewage is disposed of by filtration through cinder filters, of which there are 8 in all, arranged in two series of 4. These filters measure about 31 feet long by 10 feet wide, and are 3 feet deep each, so that there is a total filtering capacity of about 800 cubic yards. The water consumption varies from 10 to 14 thousand gallons per day of 24 hours, so that the filter beds are very much larger than the needs of the hospital demand. Some of the beds were being cleaned out, and the material re-arranged on the date of my visit, April 15th, 1910.

Disinfection.—A good many districts are now provided with Modern Steam Disinfectors, which in most instances are available for adjoining smaller Districts. The problem of steam disinfection in large and scattered Rural Districts has not yet been satisfactorily solved, and as a result fumigation with formaldehyde or sulphur dioxide gas continues to be employed—a method not at all satisfactory for bulky infected articles such as mattresses.

Almost all Local Authorities distribute disinfectants gratuitously in cases of infectious disease. So long as these disinfectants are used for the actual destruction of infective matter which is known or suspected to exist in definitely ascertained places, they serve a useful purpose. But all too frequently they are promiscuously sprinkled on floors, flushed down drains, scattered over ash-pits or dustbins, powdered or splashed into evil-smelling places, and so forth—modes of use which are absolutely futile and wasteful.

The amount of public money spent on disinfectants might be very considerably reduced if the articles were used for what Science has intended them—the destruction of infection *in situ*.

Bacteriological Examinations.—By the courtesy of Professor Delépine I am able to give a complete and recent statement as to the arrangements made by various Sanitary Authorities in the Administrative County for the examination of specimens from doubtful cases of Diphtheria, Typhoid Fever, Tuberculosis, &c. Commenting on the list supplied (reproduced below) Professor Delépine writes :—

“With few exceptions the authorities enumerated in the list have made use of the laboratory for 10 years or more. Those belonging to the first group are connected with the laboratory by a sort of contract. At first this contract was based upon the payment of an annual minimum fee (M.F.) based on the population—but owing to the complication which this system entailed, I have lately suggested an annual subscription (S.) of 1s. per 1000 inhabitants. The enclosed circular-letter will explain the change. This has been accepted by all the authorities but three, *i.e.*, Congleton and Lymn, which are still uncertain, and Alderley Edge, which prefers the old arrangement.

“The 6 places which have not made a definite arrangement with the laboratory have nearly all made occasional use of the laboratory for 8 or 10 years.”

Public Health Laboratory, Manchester.

1. *Places in Cheshire definitely connected with the Laboratory (paying an Annual Subscription [S] or a Minimum Fee [M.F.]).*

| | | | |
|---------------------------|----------|-----------------|---------|
| Alderley Edge U.D. | ... M.F. | Knutsford U.D. | ... S. |
| Ashton-upon-Mersey U.D. | S. | Lymm U.D. | ... (?) |
| Bowdon U.D. | ... S. | Middlewich U.D. | .. S. |
| Bredbury and Romiley U.D. | S. | Nantwich U.D. | ... S. |
| Bucklow R.D. | ... S. | „ R.D. | ... S. |
| Cheadle and Gatley U.D. | S. | Northwich U.D. | ... S. |
| Congleton M.B. | ... (?) | „ R.D. | ... S. |
| „ R.D. | ... S. | Runcorn R.D. | ... S. |
| Crewe M.B. | ... S. | Sale U.D. | ... S. |
| Dukinfield M.B. | ... S. | Wilmslow U.D. | ... S. |
| Hale U.D. | ... S. | Winsford U.D. | ... S. |

2. *Places which are not definitely connected, but which send occasional specimens for examination.*

| | |
|-------------------|-------------|
| Altrincham U.D. | Hoole U.D. |
| Bollington U.D. | Hyde M.B. |
| Hollingworth U.D. | Marple U.D. |

Macclesfield has an arrangement for a similar purpose with the Jenner Institute, and Lower Bebington Urban District Council send occasional specimens to Prof. Sir Rubert Boyce at the Thompson-Yates Laboratories, Liverpool, for examination.

Housing.—In the Borough of Crewe it is stated that the number of plans passed for new houses during 1909 was 51, the lowest figure yet recorded. For some years the amount of building going on in Crewe has been decreasing.

In the Borough of Dukinfield it is stated that the housing accommodation on the whole is decidedly good. During the past few years a number of excellent cottage houses have been built fitted with modern sanitary arrangements and convenience. The number of plans submitted and passed for new houses was 24 in 1905, 61 in 1906, 61 in 1907, 50 in 1908, and 18 in 1909. A list of back-to-back houses is kept, and the worst property is under periodical and careful inspection. The central part of Dukinfield is somewhat congested, but several other portions, particularly in the east of the town are composed largely of farm lands and open spaces.

The Medical Officer of Health for Hyde Municipal Borough submits a list which is repeated from previous reports, of houses which require dealing with on account of being insanitary. This list contains a considerable number of back-to-back houses, or single houses without through ventilation, and one or two cellar dwellings. It is to be hoped that the Town Council will realise their responsibilities more fully in respect of this kind of property. Much might be done quite apart from legal procedure by the Committee having charge of this matter interviewing property owners, and impressing upon them the desirability of dealing voluntarily with their property. This procedure has been successful in other places and there is no reason why it should fail in the Borough of Hyde. It is stated that 74 new houses have been built during 1909, but nothing is stated as to the character of these houses, nor as to the sufficiency of working class accommodation in the town.

In Stalybridge the Medical Officer of Health certified 8 houses during the year as being unfit for habitation, and after visitation by a Sub-Committee the owner was served with notice to discontinue their habitation or render them fit for habitation. On failure to comply with that notice the Council ordered the buildings to be declared unfit for habitation and to be closed after a certain date under the provisions of the Stalybridge Extension and Improvement Act, 1881. The premises thereupon became

empty and have not since been tenanted. In other ways endeavours have been made to improve the housing accommodation in this town. There is still, however, in the opinion of the Medical Officer of Health, urgent need for a greater number and for more commodious houses for the working classes. The erection of new cotton mills has not been accompanied by the erection of new houses for the operatives, and many of these have to journey to their work from neighbouring boroughs.

Building appears to be going on rapidly in Ashton-upon-Mersey Urban District, 29 plans having been approved by the Council during the year for 55 houses, and 41 new houses are in course of erection.

Lower Bebington Urban District is also growing, and 31 new houses were erected during 1909.

In the Bollington Urban District, it is stated, there are 1,182 inhabited houses, for the most part being structures of stone and rubble, although brick is coming into more general use for the newer houses. Whilst the area around the houses is on the whole satisfactory, there are some cases where the yards are very confined. It is in reference to internal accommodation, however, that matters are not quite so satisfactory, for most of the older houses are built on the plan of two rooms up and two down, which means that many families have not sufficient sleeping room. In the newer houses this difficulty is being remedied, and houses with three bedrooms are becoming the general rule.

In Bredbury and Romiley there is certainly not a great excess of housing accommodation, for on June 30th, 1909, there were only 51 empty houses in the whole district. Houses in good repair and new houses are said to be very soon tenanted.

In the Cheadle and Gatley Urban District there has been a decrease in the number of new houses built and occupied as compared with the previous year. There are more houses of the cottage type to let now since a number of working people employed in connection with the new railway between Manchester and Wilmslow have left the district, the railway having been completed.

In Ellesmere Port and Whitby Urban District no fewer than 115 houses were erected during 1909.

In Hazel Grove and Bramhall Urban District plans were approved for 115 houses, amongst other things.

In the Hoole Urban District it is stated that the housing accommodation for the working classes is fully adequate for the needs of the district, and that the houses are well built, and provided with ample air space.

During the year plans were approved amongst other things for 44 new houses in Hoylake and West Kirby Urban District.

In Northwich Urban District it is said that there has been a considerable amount of building during the year, 58 new houses having been added to the number. About six houses have been pulled down during the year, and four others condemned as unfit for habitation. The Medical Officer of Health is of opinion that the modern requirements for new houses are so great that few are ever built that are let at a less rent than from 4/6 to 5/6, and inasmuch as there are hundreds of families who do not get more than £1 a week, it is obvious that they cannot pay for rent more than 2/6 or 3/- per week at the most. As a result all the old two, three, and four-roomed cottages, which are generally situated in courts with common yards and common sanitary conveniences are easily sought after because of their cheaper rent. Overcrowding is in consequence very common. Dr. Gough suggests a revision of the Bye-Laws so as to allow of smaller houses being built, and is of opinion that Local Authorities might either be the bankers for or the owners of such property.

In the Urban District of Sandbach the Medical Officer remarks that there is plenty of housing for the working classes, and that the houses are in a good state of repair with plenty of open air space around.

In Wallasey, building has been going on very rapidly for many years, as will be exemplified by the following figures, showing the number of new houses certified as fit for habitation since 1904:—1904, 259; 1905, 432; 1906, 614; 1907, 706; 1908, 604; 1909, 630. A considerable amount of work has been done in this district to improve the housing conditions. Thirty-one houses were represented by the Medical Officer of Health as unfit for habitation, and 10 closing orders were obtained during the year. Four houses represented in 1908 as unfit for habitation were demolished in 1909 by the Council. A number of other houses have been dealt with in various ways, the owners being put under agreement to demolish or make habitable within a certain date, and so forth. It is important to notice that a large amount of this work has been done by agreement, and only in three instances, involving 10 houses, has it been found necessary to appear at the Police Court.

In Macclesfield Rural District it is stated that eight houses have been dealt with under the Housing of the Working Classes Act. It is said to be difficult to find suitable houses of this character in some parts of the district, although building is taking place fairly rapidly in certain areas, plans having been deposited for 42 new houses during 1909.

Plans for 59 new houses were approved by Nantwich Rural District Council in 1909.

In the Northwich Rural District, plans have been approved for 59 houses during the year. Four houses were condemned by the Medical Officer of Health as unfit for habitation, and of these, two were closed by a Magistrates' Order, one was abandoned, and one is still pending. There is said to be a distinct need for houses for working people at a rental of 2/6 to 3/6 per week in this district. This is due to the fact that there are within the area of this district several large Chemical and Salt Works, and the district completely surrounds the Urban Districts of Northwich, Middlewich and Winsford, where there is a good demand for workers.

In the Tarvin Rural District 13 new houses were completed during 1909, four in the Northern division, and nine in the Southern.

Housing and Town Planning Act.—This Act, which is of far-reaching importance, will, if carried out with determination and discrimination, do more towards securing better housing than has hitherto been possible under the powers of the Public Health Acts and Housing of the Working Classes Acts. The First Part of the new Act is an instance of legislation by reference which, whilst somewhat confusing in the matter of cross-references to previous legislation, was probably the shortest cut to reform, and moreover probably the way with fewest obstacles in it. There are four Parts in the new Act, but the fourth is one chiefly relating to subsidiary matters and repeals. The first three Parts deal respectively with:—

I. The Housing of the Working Classes.

II. Town Planning Schemes.

III. County Council matters—appointment and duties of Medical Officers of Health, Special Housing Committees, and assistance by County Councils to Societies interested in housing.

These three Parts may be summarised from the circular issued by the Local Government Board in December, 1909.

I.—HOUSING OF THE WORKING CLASS.

The principal provisions in regard to this subject are contained in Part I. and the First Schedule to the Act. They may be summarised as follows:—

(1) Part III. of the Housing of the Working Classes Act, 1890, which enables Local Authorities to provide houses for the working classes is put in force throughout the whole country.

This Part of the Act of 1890 has in the past been adoptive only, and in rural districts could not be adopted without the consent of the County Council. There are many urban districts in which that Part has not been adopted, and the rural districts in which it has been adopted do not number a score. Yet a large volume of evidence was given before the Select Committee on the Housing of the Working Classes Acts Amendment Bill, 1906, to the effect that there was urgent need for action under Part III. of the Act of 1890 in many rural districts, and the Select Committee endorsed this view.

(2) The new Act greatly increases the facilities for the acquisition of land for the purposes of the Housing Acts. The difficulty of acquiring land for these purposes is one upon which the Select Committee of 1906 laid particular stress. The effect of Section 2 and Schedule I. is to make the powers granted to the Councils of Counties and County Boroughs by the Small Holdings and Allotments Act, 1908, for the compulsory purchase of land for small holdings available to local authorities acting under Part III., of the Housing of the Working Classes Act, 1890, for the compulsory purchase of land for the purposes of that Part, subject to some modifications as regards land in urban areas. The extent of the simplification of procedure involved will be recognised when it is remembered that hitherto a Provisional Order confirmed by Parliament has been necessary in every case before authority for the compulsory purchase of land for this object could be obtained.

(3) Loans can in future be made by the Public Works Loan Commissioners for periods up to 80 years at the minimum rate of interest allowed for the time being for loans out of the Local Loans Fund, and the rate of interest will not vary with the term allowed for re-payment.

The Committee of 1906 laid great stress on the financial aspects of the housing question, and the Board have themselves had many representations from local authorities to the effect

that such an enactment as that in Section 3 would greatly facilitate their efforts in dealing with the question.

(4) Powers are given for the enforcement of the execution of the Housing Acts. The Board trust that it may not often be necessary to resort to these powers, but they must point out that they are very complete as regards all matters concerning the housing of the working classes, and in particular extend to enable the Board to enforce the inspection required by Section 17 of the new Act, a matter in which certain local authorities have in the past been very lax.

Section 17 of the Act makes it the duty of every Local Authority to cause inspection to be made of their district with a view to discovering houses unfit for habitation, and Section gives the Local Government Board power to make regulations for local authorities and their officers in this matter, and to prescribe records to be kept.

(5) The law as regards the closing and demolition of dwellings unfit for human habitation is simplified and strengthened.

Local authorities will, under the new Act, themselves make closing orders, and the powers of a Court of Summary Jurisdiction in this respect will cease.

(6) The new Act extends to houses of much higher rental than those fixed by Section 75 of the Act of 1890 the condition implied, in the contract for letting, that the house is fit for habitation, and includes in the implication a condition that the landlord shall keep the house in a state reasonably fit for habitation during the holding.

The need for raising the limit of rentals will be recognised when it is borne in mind that the original limit was fixed in 1885, since which time there has been a considerable rise in the rents of working-class houses.

Section 15, which requires landlords to keep houses within the rental limits above referred to in all respects reasonably fit for human habitation, gives powers to the local authority in regard to landlords who make default in this respect, which, in the opinion of the Board, should prove of great value. The powers vested in local authorities of dealing with houses such as those in question have not in the past been very complete; for it was necessary either to prove the existence of a statutory

nuisance, or to show to the satisfaction of a Court of Summary Jurisdiction that the house was in a state so dangerous or injurious to health as to be unfit for human habitation.

The Board trust that the Councils will not hesitate to use their powers under the new Section.

(7) Other important provisions to which attention should be drawn are those contained in Section 17 (7), with regard to underground rooms habitually used as sleeping places, in Section 43, which prohibits the crection of back-to-back houses, and in Section 24, the effect of which is that schemes under Part I. or Part II. of the Act of 1890 will take effect on the issue of the Board's Order confirming them. No such Order will need confirmation by Parliament.

Reference may also be made to Section 36, which considerably enlarges the power of entry on premises for the purposes of the Housing Acts, and to Section 44, which enables the Board to deal with bye-laws with respect to new streets or buildings if the crection of dwellings for the working classes is unreasonably impeded in consequence of them.

The Board are framing Rules under Section 39 with regard to the procedure on appeals to them under the Housing Part of the Act, and also forms of notices, advertisements and other documents under Section 41 (1).

II.—TOWN PLANNING.

The object of the Town Planning Part of the Act is to ensure, by means of schemes which may be prepared either by local authorities or landowners, that in future land in the vicinity of towns shall be developed in such a way as to secure proper sanitary conditions, amenity and convenience in connexion with the laying out of the land itself and of any neighbouring land.

Hitherto the conflicting interests of different owners and the absence of any power in the local authority to guide and control development according to the circumstances and requirements of particular cases has resulted to a considerable extent in the development of estates, whether large or small, with a sole regard to the immediate interests of the particular estate and without regard to the amenity and convenience of neighbouring lands.

Nor can the landowners be generally blamed for what has taken place. Their powers have in the past been practically limited to their own estates, and the local circumstances connected with the interests of owners of neighbouring properties have often hindered development in the direction most in harmony with the interests of the community.

Much has, of course, been done by provisions in public general statutes, byelaws, regulations, and local Acts, to secure sanitary conditions in the development of land. But such provisions, which commonly apply to a whole district, are inherently inelastic in their character and are not concerned with amenity and convenience as affected by the particular circumstances of the actual land about to be developed.

The Town Planning Part of the new Act involves, in fact, a material advance in the relations between the owners of land and the local authorities in this country, and enables each party to co-operate with the other in promoting the general interest.

The importance of co-operation on the part of the local authority with the owners and other persons interested in the land proposed to be included in a town planning scheme is fully recognised by the Act. Thus Section 56 (2) contemplates that the Regulations to be made by the Board under that section shall provide for securing this co-operation by means of conferences and otherwise at every stage. Again, amongst the matters to be dealt with by General Provisions under Section 55 is the power of the responsible authority to make agreements with owners, and of owners to make agreements with one another (Fourth Schedule, Paragraph 13). It is hoped that by means of conferences agreement may generally be arrived at between the local authority and the owners concerned before a scheme is formally submitted to the Board for their approval; and if it is thought that at any stage prior to such submission the assistance or advice of any of the Board's experts might tend to facilitate such agreement or to save labour or expense, the Board will be quite ready to arrange for such assistance or advice being given.

The Board trust that Councils in whose districts signs of development are visible will give very full consideration to the opportunities which the Act offers of guiding and controlling that development for the benefit of the community, and that in doing so they will bear in mind the heavy burden which has fallen on the ratepayers of many districts in the past in remedying defects of the kind which it is now within their power to prevent.

III.—COUNTY MEDICAL OFFICERS.

COUNTY PUBLIC HEALTH AND HOUSING COMMITTEE, &c.

Under Section 17 of the Local Government Act, 1888, County Councils were empowered to appoint Medical Officers of Health, and a County Council and a District Council were authorised to enter into an arrangement for rendering the services of the officers so appointed available in the district of the District Council.

Section 68 of the new Act makes it obligatory upon every County Council to appoint a Medical Officer of Health who is not to engage in private practice and who is not to hold any other public appointment without the consent of the Board. Sub-section (3) provides that the power of County Councils and District Councils to make such arrangements as above mentioned shall cease, without prejudice to any arrangement made previously to the passing of the Act.

Duty of Clerk and Medical Officer of Health of District to furnish information to Medical Officer of Health of County.

Section 69 (1) makes it obligatory on the Clerk of a Rural District Council to forward to the County Medical Officer of Health a copy of every representation, complaint or information, a copy of which it is the duty of the District Council to forward to the County Council under section 45 of the Housing of the Working Classes Act, 1890.

Section 69 (2) directs the Medical Officer of Health of any district to give to the Medical Officer of Health of the County any information which it is in his power to give and which that officer may reasonably require from him for the purpose of his duties prescribed by the Board.

Any dispute which may arise between the Clerk or Medical Officer of a District Council and the County Medical Officer under the Section is required by Sub-section (3) to be referred to and determined by the Board, and Sub-section (4) will render the Clerk or Medical Officer of Health of a district who fails to comply with the provisions above referred to liable on summary conviction, upon information laid by the County Council but not otherwise, to a fine not exceeding £10.

Formation and Extension of Building Societies.

Under Section 72 the County Council may promote the formation and extension of Building Societies, and may, subject to

certain restrictions, assist Societies on a co-operative basis having for their object the erection or improvement of dwellings for the working classes. With the consent of the Local Government Board the County Council may make grants or advances to the Society on approved terms of interest and conditions as to repayment and may borrow money for this purpose.

Midwives Act, 1902.—The scheme in operation in the Administrative County has been mostly fully described in the Reports of your late Medical Officer of Health.

The number of midwives practising in the Administrative County at the close of 1909 is given in the following Table:—

MUNICIPAL BOROUGHES.

| | | | | | | | |
|------------|-----|-----|----|--------------|-----|-----|-----|
| Congleton | ... | ... | 15 | Macclesfield | ... | ... | 16 |
| Crewe | ... | ... | 31 | Stalybridge | ... | ... | 16 |
| Dukinfield | ... | ... | 12 | | | | |
| Hyde | ... | ... | 30 | Total | ... | ... | 120 |

OTHER URBAN DISTRICTS.

| | | | | | | | |
|---------------------------|-----|-----|----|------------------------|-----|-----|-----|
| Alderley Edge | ... | ... | 2 | Hoylake and West Kirby | ... | ... | 8 |
| Alsager | ... | ... | 2 | Knutsford | ... | ... | 5 |
| Altrincham | ... | ... | 12 | Lymm | ... | ... | 6 |
| Ashton-upon-Mersey | ... | ... | 4 | Marple | ... | ... | 1 |
| Higher Bebington | ... | ... | 2 | Middlewich | ... | ... | 4 |
| Lower Bebington | ... | ... | 4 | Mottram | ... | ... | 2 |
| Bollington | ... | ... | 3 | Nantwich | ... | ... | 8 |
| Bowdon | ... | ... | 1 | Neston and Parkgate | ... | ... | 4 |
| Bredbury and Romiley | ... | ... | 6 | Northwich | ... | ... | 15 |
| Bromborough | ... | ... | 1 | Runcorn | ... | ... | 12 |
| Buglawton | ... | ... | 6 | Sale | ... | ... | 7 |
| Cheadle and Gatley | ... | ... | 0 | Sandbach | ... | ... | 6 |
| Compstall | ... | ... | 1 | Tarporley | ... | ... | 0 |
| Ellesmere Port and Whitby | ... | ... | 4 | Wallasey | ... | ... | 48 |
| Hale | ... | ... | 3 | Wilmslow | ... | ... | 5 |
| Handforth | ... | ... | 2 | Winsford | ... | ... | 20 |
| Hazel Grove and Bramhall | ... | ... | 4 | Yeardsley-cum-Whaley | ... | ... | 3 |
| Hollingworth | ... | ... | 1 | | | | |
| Hoole | ... | ... | 1 | Total | ... | ... | 213 |

RURAL DISTRICTS.

| | | | | | | | |
|--------------|-----|-----|----|------------|-----|-----|-----|
| Bucklow | ... | ... | 18 | Northwich | ... | ... | 22 |
| Chester | ... | ... | 6 | Runcorn | ... | ... | 23 |
| Congleton | ... | ... | 18 | Tarvin | ... | ... | 10 |
| Disley | ... | ... | 2 | Tintwistle | ... | ... | 0 |
| Macclesfield | ... | ... | 16 | Wirral | ... | ... | 19 |
| Malpas | ... | ... | 8 | | | | |
| Nantwich | ... | ... | 21 | Total | ... | ... | 163 |

The total number on the County Register at the close of 1909 is therefore 496.

In the following Districts there are no midwives practising—Cheadle and Gatley Urban District, Marple Urban

District, Tarporley Urban District and Tintwistle Rural District. In the case of Marple Urban District, it is stated that there will probably be one practising in 1910.

The following particulars are summarised from the special Reports of the Medical Officers of Health.

(a) Cases attended by Midwives.—The total number of cases attended by midwives in the Administrative County during 1909 was 9,160. The total number of births registered in the Administrative County was 15,468. From this it appears that midwives attended approximately 59 per cent. of the total births in the County. This is a figure which shows an increase on previous years.

(b) Keeping of Case Books, &c.—In all the districts the whole of the midwives keep case books or registers, but a few illiterate women who cannot either read or write, naturally do not concern themselves with such records. In some cases of illiteracy the midwives keep case books and registers and rely upon the assistance of relatives and friends to keep them entered up. In only one instance is it stated that a case book was not kept entered up to date.

(c) Records of sending for Medical help.—It appears that in 855 cases medical help was summoned by the midwife. Taking the total number of cases attended by midwives as 9,160, this gives the percentage of cases in which they deemed it advisable to summon medical help as 9.3, a somewhat low figure.

(d) Taking of Pulse and Temperature.—The remarks under this heading are of various characters, and probably afford the best index obtainable to the capability of the midwives practising in the County.

In the Borough of Congleton it is stated that “considerably more than half the cases are attended by midwives who cannot read, and therefore cannot record pulse or temperature.”

In Crewe it is stated that “many of the older women cannot see the mercury of the thermometer.”

In Stalybridge it is stated “that this is not systematically done, but only when the temperature is abnormal.” This must obviously refer to the recording and not to the taking of the temperature.

In Ashton-upon-Mersey it is stated that "this is not systematically done," but the Medical Officer of Health adds "in case of illness I have no doubt it would be done." This misses the important point, for unless the temperature and pulse be taken systematically, illness would not be detected at a sufficiently early stage to render the best treatment possible, if indeed it were detected at all.

Again in Buglawton Urban District it is stated that "the midwives record temperature and pulse when abnormal."

In Compstall Urban District there is only one midwife who has not been in the habit of taking and recording pulse and temperature, and she has now been instructed to do so.

In the Knutsford Urban District it is stated that "thermometers and catheters are beyond the abilities of one if not two of the five midwives practising in the District." In the Middlewich Urban District a similar remark is made in reference to one of the midwives.

In the Nantwich Urban District it is stated that the midwives are not capable of taking pulse and temperature, except in one or two instances.

In several cases, it is reported that the midwives *say* they take and record pulse and temperature. It is the duty of the Medical Officer of Health under the scheme propounded by the County Council to inspect the case books of the midwives, and this inspection should reveal whether pulse and temperature are taken and recorded in every instance.

In Wilmslow Urban District all the midwives carry out these duties with one exception. This one is a midwife who *says* she takes the pulse and temperature, but has kept no record. The Medical Officer of Health remarks "I do not think she can count the pulse or read the thermometer accurately." Here again it is desirable that the Medical Officer of Health should ascertain these facts definitely from the midwife.

In the Wallasey Urban District it is stated that all the midwives know how to take the temperature and pulse, and all say that they do this work, but no records are kept.

In Congleton Rural District it is stated that these duties are not regularly done, because of the ignorance of the midwives. One of the midwives is stated to be almost blind.

In the Runcorn Rural District it is stated "that the clinical thermometer in the hands of an illiterate or partially educated midwife is often a delusion and a snare, and the same remark applies to pulse observation."

In quite a number of instances it is stated point blank by the Medical Officer of Health that the midwives do not record pulse or temperature.

(e) Appliances.—The large majority of the replies to the enquiry as to whether the appliances required by the rules to be kept by each midwife are actually provided and kept clean and in good order, are in the affirmative.

In Crewe it is stated that one or two of the midwives are still without a complete set, but are now being dealt with.

In Stalybridge it is stated that in a few cases the appliances are "only fairly well kept."

In Bowdon Urban District it is stated that the appliances are "rather dirty"—surely a case for active interference.

In Northwich Urban District it is stated that the catheter is frequently omitted, and in some cases the thermometer.

In the Nantwich Rural District it is stated that some of the midwives are not provided with the necessary equipment, but the Medical Officer of Health gives it as his personal opinion that it is better that ignorant women should not be in the possession of apparatus which they are not qualified to use.

(f) Means of Disinfection.—The facilities afforded in the various districts for the disinfection of midwives who have been attending cases of Puerperal Fever or other infectious disease, or cases in which there are foul smelling discharges, vary very considerably. For these, therefore, as well as for other purposes, it is very desirable that districts at present unprovided with means of disinfecting the clothing of the midwives practising in their areas should make arrangements to this end as early as possible.

(g) Puerperal Fever.—In 30 instances throughout the whole of the Administrative County cases of Puerperal Fever are known to have arisen in cases attended by registered midwives. The Medical Officers of Health have uniformly carried out the most rigorous measures on the occurrence of such disease in the practice of a midwife.

(h) Penal Procedure.—In only one instance was it necessary to report to the Central Midwives Board breach of the rules of that Board, with a view to penal action being taken. This was a case where a breach had been committed of Rule 5 E., that is to say, failure to disinfect herself and her instruments to the satisfaction of the Local Supervising Authority, and to have the clothing thoroughly disinfected after attending a case of Puerperal Fever before going to another labour. The Committee were of opinion that a *prima facie* breach of this rule had been committed, and the facts of the case were reported to the Penal Cases Committee of the Central Midwives Board. However, enquiries by the Penal Cases Committee resulted not in removal from the Roll, but in the administration of a severe censure.

(i) Shortage of Supply.—In Congleton Borough there are only 8 midwives out of 15 on the County Register who are really wishful to attend cases, and it is anticipated that very soon one or two of these will give up work, when the supply will become insufficient. The fees obtainable in Congleton are said to be much too low to induce properly trained midwives to settle in the district.

There is only one uncertificated midwife at Ashton-upon-Mersey, and she will cease work on April 1st, 1910. There are no certified midwives within a mile of the District.

At Hollingworth it is said that there is only 1 midwife, and that there will be a decided shortage after April 1st, 1910.

In Mottram Urban District there is only 1 midwife, and none in the Broadbottom part of it, and after April 1st, 1910, the whole of the district will be without a midwife, as the existing one is not certified.

A shortage is anticipated in Sandbach Urban District, though to what extent is not stated.

In the Congleton Rural District there is no midwife at Smallwood, and people have to send to Sandbach, a distance of 4 miles, for help.

There are 2 midwives in the Disley Rural District, one of whom is not certified, and is quite incapable of taking any examination. The other is the District Nurse who might not always be available for attending confinements. Probably one more midwife will be required.

In Macclesfield Rural District for the present it is not anticipated that very great inconvenience will be caused, but in a few years as the old midwives give up work, there will undoubtedly be great difficulty if the Act is to be rigidly enforced. The Medical Officer of Health states that in this widely scattered district the "handy woman" is of great value. There is not enough regular work of this kind for anyone, and few women would be charitable enough to undergo the severe hardships often necessitated by this work in the hills for the few shillings received.

Some shortage is anticipated in Nantwich Rural District, especially in the vicinity of Audlem, where there is only 1 midwife at present. The Medical Officer also anticipates some difficulty in Wettenhall, Cholmondeston, Stoke, Worleston and Church Minshull.

In the Runcorn Rural District the Medical Officer of Health remarks that he does not consider the district too well supplied with midwives. There are 23 midwives in the district, which has a population of 25,700, that is slightly under one midwife per thousand. There are 40 townships in this district, with only 6 midwives holding certificates. This will leave 34 townships in which 328 births were attended during 1909 by midwives not holding certificates, and these 34 townships will be left totally unprovided for. The shortage, therefore, in the opinion of the Medical Officer of Health will be extreme, in fact irremediable, unless there be an immediate influx of certificated midwives.

General Remarks.—The Privy Council have now made arrangements under which certificates will be given to suitable women who through no fault of their own failed to claim the Board's certificate during the two years' period of grace which expired on March 31st, 1905. Several applications under this arrangement have been made to the County Medical Officer, and in most of the cases he has been able to satisfy the Central Midwives Board that the women applying were of good personal reputation, and that in the districts in which they intended to work there was a distinct need for a further supply of midwives, having regard to the requirements of the poorer lying-in women. In this way some of the shortage mentioned above will undoubtedly be met. It is to be hoped that Medical Officers of Health who are cognisant of any desirable woman coming under the operation of this arrangement will acquaint her with her privilege, so that she will be enabled to take advantage of it before September 30th, 1910, at which date the arrangement will be discontinued.

The following extracts from the Report of the Departmental Committee appointed to consider the working of the Midwives Act are of particular interest at this time.

"The Committee were particularly struck by the proofs furnished, mainly through the testimony of Medical Officers of Health, of the spirit in which Local Supervising Authorities have as a rule interpreted their duties. Through assistance given to training, through efficient inspection by means of properly qualified ladies appointed to that end, and through the identification of the work under the Act with the general objects of health administration, much has been done to popularise it and bring its benefit under public notice.

"The statistics extracted from the Registrar-General's Annual Reports show that in England and Wales, coincidently with the operation of the Act, a notable reduction has taken place in the death-rate from puerperal septic diseases (*viz.*, puerperal septicaemia, puerperal septic intoxication, puerperal pyaemia, phlegmasia alba dolens, and puerperal fever not otherwise defined). During the 15 years preceding 1903, the highest death-rate from these causes, per million females living, was 202 in 1893, and the lowest was 109 in 1898. In 1902 it was 118. In 1903, the year in which the Midwives Act came into operation, this death-rate dropped to 97. In the three following years it was 94, 98 and 93 respectively, and in 1907 it declined to 81.

"The circumstance that so marked a decline has synchronized with the period of statutory regulation of female midwifery practice can hardly be treated as without significance, but we refrain from quoting the figures as conclusive evidence of causal connection. We are aware that as a result of local delay in setting up the necessary machinery, the Act did not become effectively operative in many areas until long after the appointed day. On the other hand, the stimulus to public interest by the passage of the Bill through Parliament did presumably, quite apart from direct administrative action, prove a potent influence in securing a higher standard of care in the attendance on parturient women, and on the whole the balance of probability seems to favour the view that a share, at any rate, in the reduction of puerperal mortality may reasonably be ascribed to the enactment of this legislation.

"Such general statistics as are available with regard to infant mortality do not afford an adequate basis for any estimate as to whether the Act has or has not been instrumental in

saving the lives of young children. It would manifestly be futile to argue from figures setting forth the death-rate of children under one year of age. In the great majority of cases, an infant, after the first week or two of its life, passes beyond the ken of the person who was in attendance at its birth, and its subsequent death or survival will often depend on circumstances over which the doctor or the woman who conducted the mother's delivery can have no control.

"It is as yet too early to estimate the effect of the Act in the diminution of ophthalmia neonatorum, as the figures illustrating the extent of that disease are mainly obtainable from observation of the entrants to institutions for the care of the blind, approximately 30% of whom suffer from this cause, but there seems no reason to doubt that it will be considerable.

"In addition to the probable saving of life both of mothers and children, there is also to be considered the removal of manifold causes of permanent ill-health afflicting many of the survivors."

SUPPLY OF MIDWIVES AND COST OF TRAINING.

"Leaving out Wales, from which the figures are not complete owing to the indifference or neglect of the parties concerned, there seem to be some 15 counties, out of 50, in which a shortage is anticipated, though in all those of which we have evidence it will be confined to certain districts; while in 12 county boroughs out of 71 a deficiency is apprehended, but in their case the remedy should be easily applicable."

"The question appears to be mainly one of distribution. The problem that has to be solved is, therefore, of a partial and sporadic character, and the Committee are impressed with the fact that the solution is to be found in intelligent and effective organisation, to which all the administrative entities interested should be expected to contribute.

"The difficulty of replacing the unqualified woman by a superior order of practitioner is unfortunately not altogether a question of supply, as, apart from the feeling of medical men in the matter, the reluctance of a certain class of the poor themselves has to be overcome; we were told that in many cases they prefer the old type of attendant, who is probably well known to them and is usually more helpful in the house, although she is often uncleanly and inexperienced. Sometimes, too, the preference may be due to her companion-

able, not to say convivial, qualities, and occasionally, but we hope rarely, to the more sinister reason, as a medical officer put it, that she is believed to enjoy "a lot of church-yard luck." In commenting upon this, the witness said "they do not want the children to live."

"It is essential that such organisation should be based upon principles adaptable to every need within its sphere of influence. Taking the County area as being the most suitable, we recommend that the constitution of a County Association should follow these lines:—

- (1). The encouragement of all district nursing, upon either of the two methods generally in force throughout the country, viz., the district visiting system and the cottage resident system. The choice of system to be left to the discretion of the particular locality requiring assistance.
- (2). The recognition and supply of three grades of nurses, all of whom should be certified midwives, viz.:—
 - (a) Highly trained, fully certificated district nurses.
 - (b) Nurses with not less than twelve months general and midwifery training, willing to work upon either the visiting or resident system.
 - (c) Trained and certified midwives.
- (3). The formation, where practicable, of county training homes.
- (4). The establishment of one or more emergency homes from which midwives can be sent for short periods of time to special districts requiring help.
- (5). Affiliation to a central organisation in London for mutual co-operation and assistance, especially for the supply and training of candidates, and increased facilities in borrowing and lending nurses.
- (6). Co-operation between the local supervising authority, and the voluntary nursing association with regard to the inspection of midwives.
- (7). The funds of the association to be supplied as follows:—
 - (a) By voluntary subscriptions.
 - (b) By grants to local associations from boards of guardians.
 - (c) By grants from the county council for training in midwifery.
 - (d) By fees paid for the services of the nurses.

"The combination of rural midwifery with district nursing is now generally recognised as not only practicable but expedient. With some exceptions of an unconvincing character, the evidence was conclusive on this point. A considerable part of district nursing deals with non-infectious cases, and these, of course, present no difficulty; but in others modern methods of disinfection, if intelligently pursued and effectually enforced in accordance with the requirements of the Medical Officer of Health and the Local Supervising Authority, are so complete as to render isolation and kindred measures of precaution superfluous. The thoroughly trained district nurse who will understand and practice asepsis is, therefore, the best-equipped agent to undertake the care of lying-in women, if she has qualified herself to become a certified midwife, and it is obvious that she can obtain this qualification much more easily than one without her advantages. It should, of course, be clearly understood that, whenever a district nurse attends a septic case, she should be careful to observe the Rules of the Central Midwives Board (such as E. 5 in the last issue), with regard to disinfection.

"The facilities which the law affords to Boards of Guardians to contribute to the support of district nursing associations in return for services rendered,—powers which we understand are found to be both advantageous and economical,—thus become indirectly ancillary to the subsidising of midwifery; this may be of material help in the solution of the problem as to how midwives are to be maintained in areas which do not supply a large number of births, and the Committee think it would be desirable that the attention of Boards of Guardians should be called to their powers in this respect and to the advantages which both the poor under their charge and the community generally would derive from a liberal exercise of such powers.

"Maternity clubs organised on the basis of insurance against the risks and charges of child-bearing might, too, with a little trouble, be made supplementary to the financial resources of these associations.

"The Committee believe that, if these principles are applied with prudence and forethought, and acted upon with a sincere desire to co-ordinate effort and make the best of existing material, the cost would not be beyond the resources of any locality, and at least worth the results obtained.

"The subsidiary question of the cost of training, so far as it may germane to considerations arising out of our

terms of reference, appears limited to its bearing upon supply, including a determination of the point, whether full use has been made of existing material in, and through the medium of, institutions connected with the poor law.

“At the same time, it has been brought to our notice that there exists a certain amount of confusion in the minds of poor law authorities as to the possibility of affording midwifery training to their nurses, if the institution is not recognised as a training school. The rules of the Central Midwives Board provide for two ways in which an institution can be utilised for the teaching of midwifery. The first is by the recognition of the institution itself as a training school; the other, by the approval of a Medical Officer as a teacher. The first method obviates the necessity for the approval of individual officers as teachers, and is rightly only applicable to the larger institutions.

“In some cases, the small number of births in the institution has been the cause of its non-recognition as a training school, and the Committee agree that the Central Midwives Board are justified in refusing recognition to any institution in which the material is not sufficient for the training of more than two or three candidates per annum. But we think that it should be brought to the notice of the Guardians that practically the same result would be attained if the Medical Officer were approved by the Central Midwives Board as a teacher.

“The expediency of the further utilisation of the maternity wards in poor law institutions for the purpose of teaching midwifery should be impressed upon Boards of Guardians, and this might be borne in mind by the Local Government Board in their arrangements for inspection

“The cost of midwifery training has increased considerably since the operation of the Act. A valuable paper handed in by Sir Shirley Murphy shows that, in London, the fees charged, except under special conditions, vary in the different institutions from £14 14s. 0d. to £35, while by other witnesses it was clearly shown that the inclusive cost usually amounts to between £20 and £30. This is a prohibitive fee, in ordinary circumstances, for working class women intending subsequently to practise in rural districts, where it is impossible for midwives as such to make a living. The supply in these districts is maintained by midwifery scholarships granted by the Education Committees of County

Councils, and by free training given by voluntarily supported nursing associations to candidates who are willing, after the completion of their training, to work in a selected area for a given period of time, at a comparatively low salary.

"The Committee are of opinion that every legal facility should be given to Local Supervising Authorities to contribute, where necessary, towards the expense of training midwives for work in their districts. It appears that at present the only way in which this can be done is by recourse to the funds for higher education, under Section 2 of the Education Act, 1902. The Committee agree with the Resolution of the County Councils' Association that the powers of County Councils should be extended so as to enable them to charge expenditure for this purpose on the County Fund. Sir George Fordham, who appeared on behalf of the Association, did not personally support this recommendation, but several witnesses expressed themselves strongly in favour of such an extension of powers.

REMUNERATION OF MEDICAL MEN SUMMONED ON THE ADVICE OF MIDWIVES.

"The Committee are unanimously of opinion that the Act should be amended by giving the practitioner summoned by a midwife in cases of emergency a secure expectation of payment.

The further questions remain to be answered, in whom the duty to pay the fees should be vested, by whom the fees payable should be fixed, and on what scale.

We have already touched upon the applicability of Section 133 of the Public Health Act, 1875, to the purpose, "if" in the words of the Local Government Board, "a town council or other local authority for the execution of that Act are willing to pay for the medical assistance required." The evidence at least shows that in some cases it has been done very efficiently, and both without friction, and at small cost to the community.

"It is clear, however, that County Councils, although the Local Supervising Authorities under the Act, are not in most cases, owing to the very wide area over which their administration extends, the best authority for the purpose of such payments. They have no machinery for determining the capacity of the people to pay. There is also, perhaps, a balance of convenience against entrusting the

duty to the various public health authorities in rural districts. No argument to the contrary can be drawn from the existence of the power to recover fees under Section 132 of the Public Health Act, 1875, or the Isolation Hospitals Act, 1893. For one reason or another,—mainly perhaps owing to a desire not to deter patients from using the hospitals,—this power appears to be generally in abeyance throughout the country.

“The Committee are not insensible to the important part the Act plays as an instrument of public health, nor to the prejudice that attaches in certain quarters to the action of the poor law authority in connection with such matters, but looking to the large number of cases that must arise, when the determination of the ultimate source whence the fee is to be derived will be mixed up with questions touching the capacity of the patient or her relatives to pay, they think it would be inexpedient to divorce the duty to pay in the first instance from the authority primarily invested with the functions of public assistance.

“It may be stated at this point that the view here expressed accords with the recommendations of the Royal Commission on the Poor Laws and Relief of Distress (Report, part V., Chapter 3), and is in agreement with that of the Local Government Board, who, in a communication they were good enough to address to us, suggested that, if it should appear to the Committee to be desirable that the payment of the medical man’s fee should be guaranteed in every case, the local authority charged with the administration of poor law relief should be made the authority responsible.

“We think, therefore, that, in every case in which the payment of the doctor’s fees is to be guaranteed, the local authority charged with the administration of poor law should be made the authority responsible, and should be empowered, when it sees fit, to charge the fee paid as “relief on loan” to the patient. For administrative purposes, and with a view to checking the possibility of collusion between doctors and midwives, a quarterly return of cases, in which payments have been made, should be sent to the Local Supervising Authority.

“We also think that, in accordance with the prevailing tone of the evidence, the fee should be fixed by Order of the Local Government Board on a systematic basis, having due regard to local conditions.”

Prevention of Blindness.—The Central Midwives' Board have recently issued the following admirable leaflet on this subject. A copy of it has been sent to every registered midwife in the Administrative County.

INFLAMMATION OF THE EYES IN NEWBORN CHILDREN.

OPHTHALMIA NEONATORUM.

This is a very common cause of HOPELESS BLINDNESS, which is one of the greatest misfortunes that can happen to a child. A very large number of children will be saved from blindness if the following directions of the Central Midwives' Board are observed.

The disease generally arises from purulent discharges from the mother getting into the baby's eyes at birth.

It is therefore of the greatest importance that this should be prevented:—

- 1.—By curing such discharges if possible before Labour. This requires medical treatment (Rule E. 19 (2) & (3).)
- 2.—By taking the greatest care that such discharges shall not be carried into the baby's eyes when it opens them for the first time soon after its head is born.

The discharges may be carried into the baby's eyes in the following ways:—

- (a) The discharges collect round its eyes, especially the eyelashes, and easily get into its eyes.

This can be generally prevented if the midwife observes Rule E. 14: "As soon as the child's head is born, and if possible before the eyes are opened, its eyelids must be carefully cleansed." They should be thoroughly wiped with clean material such as cotton-wool, lint, or rag, using separate pieces for each eye. The reason for this is that the piece used for wiping the first eye will be polluted by the discharges, and should not be used for the other eye.

- (b) Newborn babies sometimes rub their eyes with their hands. This may rub the discharges into their eyes. When Rule E. 14 has been complied with the baby's hands must be carefully cleansed.
- (c) When the baby is bathed the discharges with which its body is covered during Labour are washed off into the bath-water. If its face is washed in this water, matter may get into the eyes.

N.B.—The above directions are to be observed In ALL cases, whether purulent discharges are known to be present or not.

The Central Midwives' Board is determined, so far as^s lies in its power, to secure the strict observance of its Rules and Directions, and to punish any failure to comply with them, even in cases where no harm can be proved to have followed from their neglect.

F. H. CHAMPNEYS, M.D., F.R.C.P.,

Chairman of the Central Midwives' Board.

December, 1909.

This leaflet was drawn up and issued at the request of the Board.

Water Supply.—The Borough of Congleton derives its supply from springs in the quicksands on the west side of the Pumping Station at Forge Lane within the Borough. It is stated that there are only a few isolated farms in the district which are not supplied from the mains.

Crewe obtains its water from the L. & N. W. Ry. Co. by purchase, the water being originally obtained from deep wells in the new red sandstone at Whitmore in Staffordshire.

Dukinfield obtains its supply from wells, springs and streams in the Swineshaw district, the Works being owned by a Joint Waterworks Committee consisting of the Boroughs of Dukinfield, Ashton-under-Lyme, Mossley and Stalybridge. It is stated that one new reservoir has recently been completed and powers have been obtained and contracts let for the construction of an additional reservoir in the Chew Valley to hold about 200 million gallons.

The Hyde supply is from the Manchester Corporation (Woodhead reservoirs), but the higher parts of Gee Cross and Newton do not obtain their supply from this source, though Works are now in progress to carry the Woodhead water to these portions of the Borough.

Stalybridge obtains its water from the Works of the Joint Waterworks Committee mentioned in connection with the Dukinfield supply. The supply at Stalybridge is almost entirely derived from the Brushes reservoir, but portions of this Borough, namely, Heyrod, Hough Hill, and the district of Mottram Road above Bower Fold are supplied from the Lower Swineshaw reservoir. Both the Brushes reservoir and the Lower Swineshaw reservoirs are supplied by the Higher Swineshaw reservoir. It is stated that the present capacity of the reservoirs owned by the Joint Waterworks Committee is about 900 million gallons. Alderley Edge obtains its water supply from the Stockport Corporation.

In connection with the Alsager supply the Medical Officer of Health has for many years reported upon the necessity for a supply to Linley, and the Council is now awaiting the sanction of the Local Government Board to the Scheme for the supply of Linley with water from the Alsager supply. In view of the fact that the only supply at Linley is open to pollution, the Council have placed a tap from the Alsager supply pipe in as central a position as the pressure of water will allow, thus giving the people drinking water of a pure character.

Altrincham Urban District is supplied by the mains of the North Cheshire Water Company. A number of houses which had hitherto only the use of a standpipe have now had an individual supply laid on.

The North Cheshire Water Company also supplies Ashton-upon-Mersey District. It is stated that a supply is needed to the extreme end of Carrington Lane where there are about 7 houses, and is also needed to a few of the outlying farms.

Higher Bebington Urban District is supplied with water from the West Cheshire Water Works, this supply being from deep wells at Hooton and Prenton.

Lower Bebington is supplied from the same source as the above.

Water is furnished to the Bollington Urban District from two bore-holes at Rainow. There are still some 30 houses which are without a public supply, these being situate at too high a level. The amount of the supply is stated not to be sufficient and some shortage is anticipated.

The Bowdon Urban District is supplied by the North Cheshire Water Company.

In Bredbury and Romiley the Manchester Corporation furnish the supply, only a few of the outlying parts obtaining their water from private wells. The water mains are extended from time to time as new buildings are erected provided the distance is a reasonable one.

Bromborough Urban District continues to obtain its water from two sources, the upper part of the District from the mains of the West Cheshire Water Company and the Pool Works Village from the proprietors' own Waterworks. In both cases the water is derived from deep wells. Every house in this district is supplied with water from either one or other of these sources.

In Buglawton the source of the supply is certain springs on Cloud Side. Many farms, however, have their own supply from springs or wells.

Cheadle and Gatley Urban District derive their water-supply from the Stockport Corporation with the exception of a very few houses which are supplied by wells.

The Compstall Urban District is supplied with water from certain upland springs. A few parts of the district are still without an adequate supply.

Ellesmere Port and Whitby is supplied by the West Cheshire Waterworks Company.

The Urban District of Hale is supplied from the Manchester Corporation reservoirs at Woodhead, and the supply is stated to be satisfactory in all respects.

The Hazel Grove and Bramhall supply is obtained from the Stockport Corporation (Lyme supply).

Handforth Urban District obtains its supply from the same Corporation.

The Urban District of Hollingworth is supplied well and abundantly from the Manchester Corporation reservoirs at Arnfield Springs.

Hoole Urban District obtains its water from the Chester Waterworks Company.

The supply to Hoylake and West Kirby is from deep wells. It is said that there are no parts of the District without a proper supply.

Knutsford obtains its water from the impounding of a small stream which rises on Alderley Edge about 8 miles away. It is stated that the quantity is sufficient, but that the quality is not satisfactory on chemical analysis, due to unavoidable pollution from certain agricultural land through which the stream passes. No outbreak of illness is said to have ever occurred which could be attributed to this supply.

The Urban District of Lymm is supplied by the Lymm Water Company, whose Works and Pumping Station are at the north end of Lymm Lake.

The water-supply of Marple comes from the Stockport Corporation (Lyme supply). Quite recently a Local Government Board Enquiry was held for the purposes of borrowing £220 for works of water-supply in Windlehurst Road. The water is bought in bulk from the Stockport Corporation at the rate of 8d. per thousand gallons, this being a fixed price under the Stockport Corporation Act of 1899. This scheme was not one intended to increase the area of supply, but merely

to improve the existing supply. A further and probably better supply will be obtained from the Stockport Corporation Kinder scheme. Three different private supplies were investigated during the year, and two of these were found unfit for drinking purposes, and accordingly measures were taken to stop their use. The Navy Spout which supplies about 10 houses is open to suspicion and will need careful watching.

Middlewich Urban District is supplied from deep wells at Delamere.

Mottram-in-Longdendale obtains its supply from the Manchester Corporation reservoirs, Arnfield springs.

The Nantwich Urban District at present obtains a supply from the Baddiley Waterworks. A new scheme for water-supply is now in course of preparation, and it is hoped will very shortly be commenced.

Neston and Parkgate Urban District continues to have a supply of good water from its own deep wells.

Northwich Urban District obtains the whole of its domestic water-supply from Cotebrook. In addition to this there is a trade supply from both Castle Wells and Wadebrook. The domestic water is hard, but is said to be of great purity. The mains in the higher parts of the District have been rearranged recently with great benefit.

The Runcorn Urban District is supplied from the Council's own Waterworks which were purchased from the Company previously owning them in 1893. The adjoining Districts of Halton and Weston are also supplied.

The Urban District of Sale is supplied by the North Cheshire Water Company.

Sandbach Urban District obtains its water from artesian wells.

The town of Tarporley and part of Rushton is supplied from the Liverpool Vyrnwy supply which traverses the district. This being a soft water great care is necessary in the use of long lengths of lead piping for house services. Other parts of the district are supplied from ordinary wells or springs.

Wallasey Urban District has two supplies, one from deep wells or borings in the red sandstone, and the second from the Liverpool Corporation (Lake Vyrnwy) supply.

Wilmslow obtains its water from the Stockport Corporation from deep boreholes in the new red sandstone. Parts of Morley and the Hough are still without a proper supply. Endeavours were made during the year to obtain an improved supply for certain houses in Strawberry Lane, but the opinion of the County Analyst was not sufficiently definite to enable proceedings to be taken with any hope of success.

The Winsford supply is said to be from springs of good quality, and free from liability to pollution.

Yeardsley-cum-Whaley Urban District derives its supply from the Stone Head and Diglee reservoirs.

The greater part of the Bucklow Rural District is supplied from the mains of the North Cheshire Water Co. During 1909 the Township of Dunham Town has been favoured by an extension of the mains of this Company, which was necessitated by the failure of the wells caused by the disturbance of sub-soil water during the construction of a new and deep sewer.

The Rural part of Chester obtains its water partly from Chester Waterworks Company and partly from the West Cheshire Waterworks Company. The former Company are now engaged in laying a main to supply Backford.

Congleton Rural District is supplied from the Sandbach Waterworks and from the Mow Cop and Staffordshire Waterworks Company. Holmes Chapel is still without an adequate supply, although a Local Government Board Enquiry has recently been held to enable the supply to be carried from Middlewich to this place. Part of Mow Cop and Mostyn are still without a proper supply.

The Disley Rural District obtains its supply from the Stockport Corporation (Lyme supply). Part of Furness Vale is still without an adequate supply.

Macclesfield Rural District obtains water from a large number of sources, chiefly from springs and wells. Owing to the scattered nature of the population it is not easily possible to provide a public supply at a reasonable cost. Some progress, however, is being made in this direction, and 11 townships are now partly supplied from Waterworks which are stated to be of a more or less public character.

The Malpas Rural District is traversed by the Liverpool Vyrnwy mains, and is largely supplied from this source.

In the Nantwich Rural District the work of laying new water mains had been continued as energetically as ever. Extensions have been carried out to Chorley Green and Dig Lane. A scheme is at present in progress for supplying Audlem and 10 other Townships from the Liverpool mains. A Local Government Board Enquiry has recently been held into an application for sanction to a loan for supplying the townships of Brindley, Faddiley and Burland.

The Northwich Rural District obtains supplies from several sources, viz. : the Liverpool Corporation and the Urban District Councils of Northwich, Middlewich and Winsford. In several Townships the supply is from springs, being pumped by steam or oil engines. During the year, about 2 miles of new mains have been put down in Oakmere and Weaverham, and other extensions are in course of preparation. Several cases of defective supply have been dealt with during the year.

The Runcorn Rural District has several excellent public supplies, namely the Liverpool Vyrnwy Water, Warrington Corporation Water, Frodsham and Frodsham Lordship Water Works, the Helsby and District Water Co., and the Runcorn Urban District Council supply.

In the Tarvin Rural District, Aldford, Churton and Saughton are supplied from the Wrexham Water Works. Waverton is supplied from a well fitted with a windmill. Ashton village is supplied from springs in Delamere Forest. The Township of Newton is still without an adequate supply. Although an endeavour has recently been made to obtain sanction for a loan, the scheme was not approved by the Local Government Board on engineering grounds. Beeston, Tilstone Fearnall and Tiverton have their own Works.

Tintwistle is supplied with water from a reservoir of its own situated some three miles distant from the village. Certain new houses recently erected in Matley obtain a supply from a small reservoir in the hillside at Hurst Clough. Certain other parts of the District are dependent upon springs for their supply.

The Wirral Rural District is in general supplied from the West Cheshire Waterworks. Bidston-cum-Ford and Noctorum obtain a supply from the Birkenhead Corporation, and Moreton and Saughall Massie are supplied by the West Kirby Waterworks. Although the district is traversed by the Liverpool Vyrnwy mains carrying water to Wallasey, no houses in Wirral are supplied from them. A few of the outlying places, namely Irby, Mill Hill and

some cottages between Higher Bebington and Brimstage have no proper supply of water.

Sewerage.—In the Borough of Congleton two private streets were sewered during 1909, and application has quite recently been made to the Local Government Board for sanction to borrow £265 for the sewerage of the Vale. The following parts of the District are still without an adequate system of sewers—Danc-in-Shaw, Castle Inn Bank, Boundary Lane, Lower Brook Street, Stonehouse Lane (the last 3 named being private streets) Astbury Marsh, part of Sandbach Road, and Holmes Chapel Road.

In the Borough of Crewe the construction of the large new Southern Sewer Outfall has been completed. Several sewers have been made in private streets.

In the Borough of Hyde a new sewer has been constructed in Joel Lane and Higham Lane.

In the Alderley Edge District no works of sewerage of any importance have been carried out during 1909. It is stated that there are no parts of the district inadequately sewered.

In the Alsager Urban District it is stated that the sewers in Talke and Alsager Road will be improved by the Council at an early date.

In the district of Ashton-upon-Mersey there have been no special works of sewerage carried out during 1909. The agricultural area of this District is stated to be still unsewered.

In the district of Higher Bebington the sewers are complete except in regard to a few outlying residences.

It is stated that in the Lower Bebington Urban District 150 yards of new sewers have been laid to replace defective old sewers. The portions of the district still without adequate sewers are two outlying parts where 5 houses are involved in one case and 3 in the other.

In the Bollington Urban District no works of sewerage have been carried out during the year. There are still a few isolated premises not provided with sewers.

No works of any importance have been carried out in the Bowdon Urban District, and the whole district is properly sewered with the exception of a few farms where the sewage is dealt with on the spot.

In the Bredbury and Romiley District extensions of sewers have been made in Bredbury Green, Pinfold Lane and Sidebotham Street. It is stated that no parts of the district are inadequately sewered.

The district of Bromborough is well provided with sewers, and recently a new sewer has been put in from the newly erected Mersey Chemical Works to low water-mark in the River Mersey.

The District of Buglawton has recently been completely sewered, sewers being laid in Church Bank, William Street, Tommy's Lane, Buxton Road, Queen Street, King Street, Mill Street, Havannah Street, and part of Dane Row. The whole of the houses have, however, not been coupled up to the new sewers. Certain farms situate at some distance from the sewers treat their sewage on their own land.

The only works of sewerage which have been carried out at Cheadle and Gatley during 1909 was the laying of about 880 yards of piping in Moss Lane, Cheadle Hulme. The District of Adwood is still without a proper system of sewers, and a scheme is being at present drawn up for connecting this with the sewerage system.

The District of Compstall is still without a proper system of sewers, and inasmuch as the whole of the sewage runs into one of the lodges used by the Calico Printers' Association, causing this to give off an offensive effluvium, especially in warm weather, it is exceedingly desirable that the Council should undertake the sewerage of their District (at any rate of the Urban portion thereof), and the laying down of some disposal works.

In regard to Ellesmere Port and Whitby, an Enquiry was held in August, 1909, into an application for sanction to borrow £545 for works of sewerage in this District for works which were rendered necessary owing to the erection of new property.

No sewerage of any moment has been carried out in Hoole during the year. The District of Piper's Ash, a small country hamlet, is not provided with sewers, and has to rely on cesspools, pail closets, etc.

In the District of Hoylake, three new sewers were constructed during the year, being necessitated by development in building.

In Marple Urban District a new sewer has been made at a place called Carrbrow. The Council is arranging to divert the

main sewer at Cross Lane very shortly. Plans have been prepared for a sewer to Marple Ridge. It is stated that the flushing of the sewers is not yet satisfactory, as this is only done when complaints are received that the manholes are smelling. Better flushing, and better ventilated sewers are doubtless required.

In the Urban District of Middlewich, Chester Road, Booth Lane, and a portion of St. Ann's Road, have been sewered during the year.

In the Nantwich Urban District no extensions of the sewerage system were carried out during 1909. A portion of London Road is at present without any proper system of sewers, but this will be included in a scheme now under consideration.

In the Runcorn Urban District the intercepting sewer has been extended to Halton by agreement with the Rural District Council. This sewer extension drains several works on the route, but in order to prevent trade refuse getting into the sewer untreated, settling tanks have been put down at all the works.

No sewerage has been carried out in Sandbach during 1909. The whole district is sewered with the exception of two small outlying portions, namely Ettiley Heath and Cold Moss Heath, where the houses are scattered and are drained into cesspools.

In the Urban District of Tarporley new sewers were completed during 1909 in Boundary Street, and Forest Road, the latter sewer being extended to take up sewage from Portal.

In the Urban District of Wallasey a number of old sewers were reconstructed, but no new sewers were laid. The only parts of the District still without adequate systems are said to be undeveloped portions consisting of market gardens and agricultural land, etc.

No works of sewerage were carried out in Wilmslow during 1909. Parts of Morley, Hough and Dean Row are still unsewered.

It is stated that the whole of the District of Yardsley-cum-Whaley is not provided with a proper system of sewers. A scheme is however in hand for the remedy of this state of affairs.

In the Bucklow Rural District the Surveyor reports that the main sewers have been extended in the Townships of Timperley and Northen Etchells. The Dunham Massey scheme which was commenced as long ago as 1898 was completed in 1909.

In the Chester Rural District the sewerage of Upton, Bache and Newton has now been completed.

In the Congleton Rural District it is stated that no Works were carried out during 1909, but that Thurlwood and Mow Bank are still without a proper system of sewers.

In the Disley Rural District, Newton and Furness Vale are both at present without an adequate system of sewers, but the Council is taking steps to deal with both these cases.

In the Nantwich Rural District it is stated that only little progress has been made in the matter of sewerage of the various Townships during 1909. Negotiations are in progress with respect to the sewer from London Road and Crewe Road, Willaston, and attempts are being made to arrange with the Nantwich Urban District for the disposal of sewage from Broad Lane, Stapeley.

In the Northwich Rural District a system of sewers is required for a portion of Hartford, and the Council have the question of its provision under consideration.

The sewerage of the Parish of Halton in the Runcorn Rural District was commenced during 1907, and has not yet been completed. Sewerage schemes are now in course of preparation for 3 Parishes. A large proportion of the district is of a purely rural character, and the houses are so scattered that a joint scheme of sewerage would be too expensive to be justifiable. Complaints have been received of serious pollution of a ditch in Moore, and the Rural District Council are moving somewhat slowly to have this matter remedied.

In the Macclesfield Rural District about 480 yards of 9 inch sewers were laid in Bramhall Road, Woodford, discharging into the Bramhall sewers by agreement. Sewers are still needed in parts of Butley, Prestbury, Eaton and Taxal, and an application was made to the Local Government Board recently for sanction to borrow money to connect the sewers of Butley and Prestbury to the Macclesfield Corporation Sewage Works.

A joint sewerage District has now been formed combining the Township of Taxal with the Urban District of Yardsley-cum-Whaley and parts of the Rural District of Chapel-en-le-Frith and Disley under the name of the Whaley Bridge Joint Sewerage District. A provisional agreement has been made with the Macclesfield Corporation to receive the

sewage of the towns of Upton, Butley, Prestbury, Tytherington and Hurdsfield. Endeavours are being made to induce the Buglawton Urban District to allow 29 houses at Dane Bank to be connected up into their sewers.

In the Wirral Rural District the following localities are not at present provided with modern sewers, viz., Puddington, Burton, Ledsham, Ness, Raby, Irby, Thurstaston, Frankby, Greasby, part of Newton, Saughall Massie, and Brimstage. The sewered townships have approximately two-thirds of the area of the whole district and four-fifths of the population.

Sewage Disposal.—The system of sewage disposal at Congleton is by septic tanks followed by percolating filters and final passage through a humus tank. There is a detritus tank at the entrance to the Works, and a rough screening filter is provided for storm water. The construction of four 60 feet percolating filters is at the time of writing this Report well advanced.

At Crewe the new scheme for bacteriological treatment of the sewage by percolating filters on land close to the Valley Brook is being pressed forward with as little delay as possible.

The present system of disposal is by means of broad irrigation supplemented by treatment of part of the sewage on 3 double contact beds and one circular percolating filter 75 feet in diameter.

The sewage of Dukinfield is conducted to Bradley Hurst by means of a high level and low level sewer. It is treated by chemical precipitation with subsequent filtration and passage through the land into the river. The land at Bradley Hurst is 63 acres in extent. These works are used for the disposal of the joint sewage of Dukinfield and Stalybridge. The works are under the supervision of the Mersey and Irwell Joint Committee.

The sewage in the Borough of Hyde is treated by Candy-Whittaker automatic filters. These works are under the jurisdiction of the Mersey and Irwell Joint Committee.

The sewage of Stalybridge is disposed with that of Dukinfield at the Bradley Hurst Outfall Works.

The system of sewage disposal at Alderley Edge is stated to be by means of tanks, cinder filters and land.

The means adopted for sewage disposal in Alsager is that of passage through settling tanks, with subsequent land filtration. In seasons of heavy rainfall the large amount of water to be dealt with renders proper disposal a matter of difficulty. The Council have under consideration a scheme for the improvement of the Disposal Works.

The method of sewage treatment at Ashton-upon-Mersey is by sedimentation and land filtration. Extensive sewage works were undertaken during 1909. These Works are under the jurisdiction of the Mersey and Irwell Joint Committee.

The sewage of Higher Bebington delivers by agreement into the sewers of the Lower Bebington Council. The sewage of Higher and Lower Bebington empties into the tidal waters of the River Mersey.

The system of disposal at Bollington is by means of settling tanks and filter beds. These Works are under the supervision of the Mersey and Irwell Joint Committee.

The system of disposal at Bowdon is by means of settling tanks and land filtration. These Works are under the supervision of the Mersey and Irwell Joint Committee.

The method of disposal at Bredbury and Romiley is by means of bacteria beds with subsequent land filtration. These Works are under the Mersey and Irwell Joint Committee.

At Bromborough the sewage is passed through septic tanks and over filter beds, except in the two instances of the sewage of the Pool Works and the Magazines, which deliver direct into tidal waters.

The sewage of Buglawton is received by arrangement at the Congleton Borough Sewage Works.

The system of disposal at Cheadle and Gatley is by settling tanks with land filtration. These Works are under the supervision of the Mersey and Irwell Joint Committee.

The whole of the sewage of Compstall runs into one of the lodges of the Calico Printers' Association Works, and complaints (which were well justified), have been made of the offensive effluvium arising from this pool of water.

The sewage at Ellesmere Port is received in covered septic tanks and the effluent from this is treated on bacteria beds.

The County Medical Officer of Health has had occasion to complain very strongly of the way in which these Disposal Works were managed, and they will doubtless require continued supervision.

The sewage of Hale is dealt with in part at the Altrincham Sewage Farm, and in part at the Council's own Sewage Farm at Ashley Heath. Both Works are under the supervision of the Mersey and Irwell Joint Committee.

The Urban District Council of Handforth has a scheme of sewage disposal in hand, and, judging by the condition of some of the brooks in this neighbourhood, it is high time that such a scheme was carried out.

Hollingworth Urban District Council. These Works are under the supervision of the Mersey and Irwell Joint Committee.

The sewage of Hoole is received by agreement into the Chester sewers.

The sewage of Hoylake and West Kirby is discharged into tidal waters at low water.

The system of disposal at Knutsford is by precipitation tanks with subsequent artificial filtration. These Works are under the supervision of the Mersey and Irwell Joint Committee.

The sewage farm serving the district of Lymm is under the supervision of the Mersey and Irwell Joint Committee.

The sewage of Marple is disposed of by sedimentation, artificial filtration and subsequent land filtration. The Works are under the supervision of the Mersey and Irwell Joint Committee.

The new Sewage Works at Middlewich are now practically completed. The method is septic tank treatment with subsequent filtration. There are two sets of bacteriological filters. Stand by tanks for storm water are provided. Some difficulty has been experienced in the discharge of the effluent into the river owing to the level of the outlet.

The sewage disposal works at Mottram-in-Longdendale consist of sedimentation tanks, artificial filters and land filtration. These Works are under the supervision of the Mersey and Irwell Joint Committee.

The sewage of Nantwich is at present discharged into the River Weaver after going through settling tanks. It is stated that there are frequent complaints of sewage being passed untreated into the River Weaver. Plans are now being prepared for a new scheme of sewage disposal, and it is anticipated that these will be submitted to the Local Government Board without delay.

At Neston and Little Neston the sewage is dealt with by bacteriological filtration, and the Parkgate sewage is discharged into the tidal waters of the Dee.

The treatment of the sewage of Northwich Urban District Council is stated to be by means of septic tanks, &c. A new scheme is at present before the Local Government Board.

The whole of the sewage of Runcorn Urban District is received into intercepting sewers which dip under the Manchester Ship Canal and discharge into the River Mersey.

The method of disposal at Sale is chemical precipitation and subsequent artificial filtration. These Works are under the jurisdiction of the Mersey and Irwell Joint Committee.

There are now two sewage disposal works at Sandbach, one of which was only completed during the year 1909. These works were described in the Annual Report of the County Medical Officer of Health for 1908. Briefly the system is that of open septic tanks, bacterial filters and final land treatment.

The method of disposal at Tarporley is on a sewage farm. During 1909 the season was not a good one, being too wet and cold, but in spite of this the sewage farm showed a small profit.

The sewage of Wallasey is discharged into the Mersey Estuary at low water mark without treatment.

There are two outfall works at Wilmslow, the northern works consisting of tanks with land filtration, and the southern works consisting of broad irrigation alone. These Works are under the supervision of the Mersey and Irwell Joint Committee.

The several sewage disposal works in the Bucklow Rural District are under the jurisdiction of the Mersey and Irwell Joint Committee.

The sewers of Christleton, Great Boughton, Upton, Newton and Bache are connected by arrangement with the outfall works of the City of Chester. The system of sewage disposal is that of septic tanks, filters and land treatment.

In the Nantwich Rural District negotiations have been successfully concluded for a site for the Willaston sewage disposal works, and revised plans have been sent to the Local Government Board. The Haslington scheme has not made any further progress during 1909, the question of the site of the disposal works being still under consideration.

Northwich Rural District possesses a number of separate sewage works, viz., at Moulton, Davenham, Leftwich, Kinder-ton, Anderton, Barnton, Comberbach, Hartford, Little Budworth, Lostock Gralam, Rudheath, Weaverham, Wincham and Winnington. The treatment generally is by septic tanks and continuous filtration. The system at Moulton is land treatment alone. Alterations at the outfall works at Lostock Gralam, Gunnersclough and Wincham have been made during 1909.

The Milk Supply.—In the Borough of Crewe it is stated that there are 73 premises on the register where a retail trade in milk is carried on. It is difficult to keep these small shops under proper supervision, and many of them are not suited for their purpose owing to the lack of proper storage room for milk. Complaints have been made on several occasions of want of cleanliness both of the milk vessels, and of the premises themselves. In 46 instances it was found that the milk receptacles kept in the shop were covered in accordance with the Bye-law to that effect in force in the Borough, whilst in 27 cases they were not covered at all, although covers had been provided, and in the remaining 8 cases no covers had been provided. It is not stated in the Report whether any action was taken for breach of the Bye-law in question.

In Stalybridge Municipal Borough a Visiting Sub-Committee inspects Dairies and Cowsheds on occasions, and during 1909 reported adversely on one building, with the result that it was discontinued. In two instances it was necessary to serve notices for attention to polluted water supplies.

In Cheadle and Gatley Urban District the Inspector drew up a special report on the lighting and ventilation, etc., of cow-sheds in the District. Following on this report a great many necessary improvements and alterations were made. In

1907 a further report was submitted, and in September, 1909, still another one. As a result of these special visits and reports there has been a great improvement in the accommodation of the cowsheds which may be judged of by the fact that whereas in 1904 there were 12 cowsheds having only 400 cubic feet of air space per cow, in 1909 there were only 3, and these are set down for alteration or replacement during the coming summer.

According to the 1909 report there are 40 cowsheds where the cubic space per cow is over 600 cubic feet, 23 where the cubic space is between 500 and 600, 14 where it is between 400 and 500, and, as said before, only 3 where it is under 400. This is an improvement that might well be imitated by other local authorities.

In Holylake and West Kirby Urban District it is stated that it was necessary to serve 8 notices during the year in respect of lime-washing. Two cowsheds at Meols which were unsatisfactory were pulled down, and another cowshed was drained and connected up to the sewers in the neighbourhood. The whole of the premises here have been inspected two or three times during the year.

In Wallasey Urban District an effort is still being made to secure systematic grooming of the cows, washing of the udders, and cleansing of the milkers' hands before milking, and it is pleasing to notice that an improvement has been maintained in this matter. During the year also a number of the older cowsheds have been redrained and various matters carried out in regard to lighting and ventilation. Useful action is also being taken under Clause 11 of the Dairies Order of 1885, since it was found that the methods of storage were incompatible with the proper preservation of the cleanliness of the milk and milk vessels. In 60 cases it was found that milk was being stored in unsuitable places, *i.e.* in shops used for the sale of hardware, firewood, tobacco, and other miscellaneous goods, and 39 cases where the milk vessels were not provided with proper covers. In 59 out of 60 of the first-named cases, the occupiers ceased to sell goods which were considered liable to contaminate the milk, and in two instances new and proper storage accommodation was provided. In 38 instances out of 39 reported the milk vessels were provided with proper covers.

From the Report from the Bucklow Rural District it is evident that very special attention has been given to the inspection of Dairies and Cowsheds. The general structural condition of these places is stated to be now very fair, although greater attention on

the part of the cow-keeper is necessary in order that proper cleanliness shall be maintained. In far too many cases the cattle did not receive the grooming which they require.

The Inspector of Nuisances for the Nantwich Rural District states that he is persistently pointing out to cow-keepers that the roofs of cowsheds should be included in the process of lime-washing, and he is in the habit of recommending an ordinary garden syringe for reaching places which cannot be cleansed with the lime-washing brush. For the destruction of flies and their eggs, lice, etc., which are often found lurking in old wood and odd corners, the use of a liquid disinfectant is recommended in the lime-wash. The Inspector is of opinion that if it could be found possible to wash the floors of these places daily, animals would have increased health and greater comfort.

In the Northwich Rural District there are standing Committees for the express purposes of visiting and inspecting dairy farms and shippens, and during the past 5 years an immense amount of work is said to have been done in the improvement of such buildings.

In the Tintwistle Rural District the Medical Officer of Health accompanied by the members of the Council visited a number of the cow-sheds in the district, and requested improvements in ventilation, drainage, lighting, etc. It is stated to be the intention of the Council to continue these inspections, and to cover all the other farms in the District at an early date.

The following remarks of Professor Delépine on the subject of tuberculosis in cattle and its bearing on the question of tuberculosis in man (reproduced from the transactions of the Epidemiological Society) are of especial interest in this county.

“The evidence obtained so far shows that bovine tuberculosis is, on an average more prevalent in districts where shippens are generally in a bad state, small or badly ventilated and dirty, and where also it is the usual practice to retain many aged cows on the farms. It is, however, equally clear that there are districts where the farms exhibit all the defects above mentioned, and yet have remained free from tuberculous mastitis; on the other hand, there are districts in which the farms were free from these defects, and where many cases of tuberculous mastitis have been observed.

“It does not therefore appear safe under the present conditions, to rely chiefly upon ordinary sanitary measures for

the purpose of controlling bovine tuberculosis. The partial or complete failure of ordinary sanitary measures indicates that the action of the infective material is more or less independent of these measures, when it is either very abundant or very virulent. There was no reason to believe that the virulence of the tubercle bacillus was materially affected by the localities investigated, but we know that cows with ulcerating lesions, *i.e.*, cows in the actively infective stage of tuberculosis—are capable of emitting, and do emit, an extraordinary number of tubercle bacilli.

“From this I am led to the conclusion that bovine animals suffering from ulcerative tuberculous lesions, more especially of the respiratory organs, alimentary canal, genito-urinary organs and udder, constitute the chief factor determining the excessive prevalence of bovine tuberculosis in certain districts.

“This conclusion indicates the great importance of inspecting every animal, of removing without delay all those that are actively infective, and of not allowing healthy animals to remain in places that have been infected, so long as these places have not been treated so as to remove as far as practicable the dangers of infection. All animals affected with tuberculosis are potentially dangerous, and as their age advances the chances of their becoming actively dangerous increases; it is therefore desirable, so long as bovine tuberculosis has not been stamped out, to reduce as much as possible the number of old animals.

“I hardly need to attract your attention to the bearings which these conclusions have upon the control of human tuberculosis. The importance of the removal of infective cases of tuberculosis indicates the desirability of segregating cases of advanced tuberculosis. These cases generally are actively infective, and I am inclined to believe that more could be done towards the future control of human tuberculosis by providing suitable homes for infective cases than by the treatment of early cases. Both things are good, but prevention would ultimately render treatment unnecessary and prevent an amount of suffering that treatment can only reduce. The provision of means of prevention need not interfere with the provision of means of treatment.

“To prevent any misconception as to the bearing of this communication upon the question of the administrative prevention of bovine tuberculosis, I wish to state emphatically here that in my opinion none of the facts brought out in this

paper would justify the view that the adoption of partial measures can be trusted to yield satisfactory results. To make my position clear I repeat here some of the conclusions given at p. 414 of the Annual Report of the Medical Officer to the Local Government Board for 1908-9.

“So long as the presence of tuberculous cows, and more especially of aged tuberculous cows, is tolerated in our herds a certain amount of tuberculous infection of the milk supplied is inevitable. The elimination of cows with tuberculous udders undoubtedly removes the most material and dangerous source of infection, but it is *only after the milk has become infectious* that these cows are detected. Frequent inspection is therefore indicated under the present system of control.

“Preventive methods based upon the state of milk or of the udder cannot give results equal in value, either from an agricultural or from a public health point of view, to those that could be obtained by methods having for object the *eradication of bovine tuberculosis*. The latter, though more costly at first, would yield more permanent benefits, and finally be less onerous.

“Measure having for object the control of milk supplies, to be efficient, must be carried out uninterruptedly year after year, very systematically, and over fairly *extensive continuous areas*.”

Food Inspection.—Congleton is fortunate in having the services of a Veterinary Surgeon for the purposes of meat inspection. This Inspector makes regular visitations of the slaughter houses, and in addition to inspecting the doubtful carcasses, gives advice about cleanliness, removal of offal, etc. Frequently on Saturday nights he visits the fish stalls in the market place, and in many other ways takes measures to ensure that the quality of the meat sold in the Borough and the premises where it is slaughtered and stored are kept up to a high standard.

At Crewe, the premises where meat is slaughtered or exposed for sale are visited systematically by the Medical Officer of Health and Inspector. The members of the Butchers' Vigilance Association report any carcasses which are of a doubtful character. Attention is directed to the blowing of carcasses for sale as being a most undesirable practice. Constant supervision has been maintained over premises where ice cream is made and sold.

Meat inspection is said to be carried out at Sandbach by a Local Committee, but no unsound meat was detected during 1909, and no proceedings were taken.

In the Wallasey Urban District there are four private slaughter-houses, and three licensed slaughter-houses, and in addition, the Wallasey and Alfred lairages are situate within the district. At these various places, 17,503 animals were slaughtered during 1909. Twenty carcasses of tuberculous meat were seized at the private slaughter-houses, and one carcase at the lairages. These figures are somewhat significant, as showing the necessity for a regular and systematic inspection of private slaughter-houses.

In the Nantwich Rural District no seizures were made, but a large number of carcasses were examined by the Medical Officer and Inspector by request. Four carcasses of tuberculous animals, and in three instances, portions of carcasses were destroyed. One carcase was found to be affected with quarter evil.

In the Northwich Rural District, the Council have been getting an extension of the slaughter-house Bye-laws for the whole district, and they now await final sanction from the Local Government Board.

In the whole of the Districts, slaughter-houses appear to have been regularly and systematically inspected, and proper measures taken to secure cleanliness, good drainage, regular removal of offal, frequent lime-washing, etc.

Public Health Acts Amendment Act, 1907.—The following Local Authorities have adopted the above Act in part:—

Crewe, M.B.

Alsager U.D. (Part III., ss., 39-42)

Ashton-upon-Mersey U.D. (Part I. to VI.)

Lower Bebington U.D.

Bollington U.D.

Bowdon U.D.

Bredbury and Romiley U.D.

Bromborough U.D. (Part III.)

Cheadle and Gatley U.D.

Ellesmere Port and Whitby U.D. (Parts II., III, IV. and VI.)

Hoylake and West Kirby U.D.

Marple U.D.

Neston and Parkgate U.D.

Runcorn R.D.

The matter is under present consideration by the Urban District Council of Wallasey and the Rural District Council of Macclesfield. In order to encourage other Local Authorities to consider the matter freely and with regard to the special requirements of their districts a non-technical summary of its sanitary provisions is reproduced.

The Act, which came into operation on August 8th, 1907, is one intended to enable Local Authorities desiring powers in extension of those conferred by general Acts to adopt the whole, or any of the provisions contained in this Act without the very considerable trouble and expense attached to the promotion of special local Acts.

The Act is divided into ten parts, but only Parts III, IV, and V, are of public health interest, *i.e.*, those dealing with sanitary provisions, infectious disease, and common lodging houses.

Section 3.—Provides that the Local Government Board may on the application of a local Authority, *i.e.*, an Urban Sanitary Authority, Urban District Council or Rural District Council, by Order to be published in such manner as the Local Government Board direct, declare any part or any of these sections of this Act to be in force in the district of the local authority, or where the local authority are the Rural Sanitary Authority, in any contributory place within the district of the local authority. On the publication of such Order, they may declare any enactment contained in any Local Act which appears to them to be inconsistent with any portion of this Act to be no longer in force in such district. Before applying for an Order the local authority must advertise their intention of so doing.

The powers of the Act are cumulative. Expenses incurred by any Local Authority in carrying out the provisions of this Act are to be defrayed as part of their expenses under the Public Health Acts, and in the case of a Rural District are to be subject to any power of the Local Government Board to order them to be charged as general expenses.

The important sections under *Part 3 (Sanitary Provisions)* may be utilised to confer the following powers :—

- (1) In Section 35.—The definition of “nuisance” contained in the Public Health Act, 1875, is extended

to include water cisterns intended for domestic use which are not properly protected from contamination ; gutters, drains, downspouts, &c., which are so defective as to cause dampness of buildings ; deposits of material in or on any building. "Building" is not defined in this Act.

Section 36.—Enacts that rain pipes shall not be used as soil-pipes.

Section 37.—Enacts that no water-pipe, stack-pipe, or down-spout in existence at the commencement of this section shall be used as a ventilating shaft to any drain.

Section 38.—Empowers local authorities to require old drains to be laid open for examination by the Surveyor before any communication shall be made between such drain and the sewer of the local authority. No such communication is to be made until the Surveyor has certified that it may be properly made. There is no right of appeal given against any refusal of the Surveyor to *certify*, although if any owner deem himself aggrieved by the requirements to *lay open a drain* he may appeal under Section 7 of the Act, to a Court of Quarter Sessions

Section 39.—Is in this County a highly important one inasmuch as it deals with the provision of water closets or slop closets to new buildings, and the conversion of privies and pail closets to water or slop closets. Briefly, the section enables local authorities, where there is a sufficient water supply and sewer, to require new buildings to be provided with such number of proper and sufficient water closets or slop closets as the circumstances of the case may render necessary. Should the Medical Officer of Health, Surveyor or Inspector of Nuisances report that sufficient closet accommodation has not been provided in connection with a building, and such accommodation can not be provided by the alteration of any existing closets, the local authority if satisfied with this report, and if satisfied also that a sufficient water supply and sewer exists, may serve a notice on the owner of the building requiring the provision of proper and sufficient water closets or slop closets. Where there is a sufficient water supply and

sewer, the local authority may serve written notice on the owner of a building requiring any existing closet accommodation other than a water closet or slop closet which is already provided in connection with such building to be converted into a water closet, and in default of compliance with such notice, the local authority may do the work. In cases where the alteration is that of converting a pail closet to a water or slop closet, the expense of the work is to be borne entirely by the local authority ; but where the alteration is that of converting any closet other than a pail closet, *i.e.*, a privy, the local authority shall bear one half of the expenses and the owner the other half.

As regards the conversion of slop closets to water closets, this section shall have effect only if the Local Government Board have been satisfied by the local authority, and have by Order declared that it is necessary or expedient having regard to the circumstances of the district that the section shall apply.

In cases where this section is applied for the common benefit of two or more buildings belonging to different owners, the expenses which can be recovered by the local authority from such owners are to be paid in such proportions as the Surveyor determines, or in case of dispute by a Petty Sessional Court (Section 40).

A right of appeal is given to any person who deems himself aggrieved by the requirements of the local authority to a Court of Summary Jurisdiction, but at the hearing of the appeal no question other than that of the reasonableness of the amount of the expense shall be raised at that stage.

Section 41.—Gives right of entry on premises for the purposes of Section 39 of this Act, as under Sections 102 and 103 of the Public Health Act, 1875.

Section 43.—Gives power to local authorities to require the removal of any urinal or other sanitary convenience opening on any street which is a nuisance or offensive to public decency.

Section 44.—Empowers local authorities to require the provision of proper and sufficient urinals in suitable positions to inns, public-houses, beer-houses,

eating-houses and refreshment-houses, or places of public entertainment, whether built before or after the commencement of this section.

Under Section 45.—Where the Medical Officer, Surveyor or Inspector of Nuisances has reasonable grounds for believing that the drains of any building are defective, he may obtain the authority of the local authority to apply the smoke or coloured water test or other similar test (*but not a test by water under pressure*) to such drains; but he must first obtain the consent of the owner or occupier of the building to the application of such test or an Order of a Court of Summary Jurisdiction authorising its application. Should the test disclose any defect in the drain the local authority may serve notice requiring its remedy, and on default by the owner the local authority may do the work and recover the expenses. Owners and occupiers must in respect of the application of this test, when it has been consented to or authorised as aforesaid, give reasonable facilities for its application.

By Section 46.—Local authorities are empowered, on the report of their Medical Officer of Health, Surveyor or Inspector of Nuisances, to the effect that any cesspool, ashpit, well or disused well is prejudicial to health or otherwise objectionable for sanitary reasons, order the same to be filled up or removed, and drains communicating therewith to be disconnected; in default, the local authority may carry out the work and recover the expenses.

Section 47.—Gives power to local authorities to provide and maintain public sanitary conveniences and lavatories.

Section 48.—Empowers the making of a charge for the removal of trade refuse other than sludge by a local authority when required to do so by an owner or occupier of any premises. In case of any dispute as to the cost, a Court of Summary Jurisdiction shall decide, and if the question involves the definition of “trade refuse,” the decision of such Court shall be final on this point.

Section 49.—Empowers local authorities to have buildings provided with sinks and drains for carrying off refuse water.

Section 50.—Empowers local authorities to provide and maintain an ambulance for use in case of accident or other sudden or urgent disability, and to hire out such ambulance to other local authorities on suitable terms and conditions.

Section 51.—Extends Section 112 of the Public Health Act, 1875, which deals with noxious or offensive trades.

Under the 1875 Act certain special offensive trades are mentioned, and hitherto local authorities have only been able to bring under the purview of that section any trades which were *ejusdem generis* with the trades specifically named therein.

Power is now given to any local authority to declare *any* trade, business or manufacture which they deem expedient to be an offensive trade to which the Public Health Act, 1875, shall apply, but any Order declared by the local authority must, to be effective, be confirmed by the Local Government Board. The second part of this section gives local authorities power to make bye-laws with respect to any offensive trade, whether as defined by the 1875 Act or extended by this Act.

Part (4) Infectious Diseases.

Section 52.—Prohibits any person suffering from an infectious disease from engaging in any trade or occupation unless he can do so without risk of spreading the infection.

Section 53.—Deals with the spreading of infectious disease by means of milk. If any Medical Officer believes that infectious disease is being caused by milk he is to certify to the local authority, and the latter may then ask the dairyman supplying the milk to furnish the Medical Officer with a list of all the farms, dairies, &c., from which his supply of milk is derived, or has been derived, during the last six weeks. The local authority are to pay the dairyman for supplying this list.

Section 54.—Provides that in cases of infectious disease amongst persons engaged in or in connection with a dairy the dairyman is to notify the Medical Officer of Health.

Section 55.—Deals with the sending of infectious clothes to laundries, and prohibits such articles being sent unless they have been disinfected previously, or are sent under proper precautions, and with a notice stating that they have been exposed to infection.

Section 56.—Provides for the cleansing or destruction of any articles in dwelling houses which are so filthy as to be likely to cause injury to health.

Section 57.—Deals with the attendance of children suffering from infectious disease, or children who have been exposed to infection, at any school, whether a public elementary school or a school of some other description. In such cases, if the Medical Officer sends a notice to the parent, the parent must not permit the child to attend school unless he has obtained a certificate of freedom from infection from the Medical Officer.

Section 58.—Enacts that where any scholar in a public elementary school or other school is suffering from an infectious disease the Principal or person in charge of the school must supply a list of names and addresses of scholars if required by the local authority.

Under Section 59, provision is made to prevent infectious disease being caused by the issue of books from public or circulating libraries.

Section 60.—Alters the provisions of the Public Health Act, 1875, relating to the recovery of cost of maintenance in a hospital. It will be remembered that under the Public Health Act, 1875, local authorities are virtually compelled to take steps to recover the cost of maintenance in isolation hospitals from persons who are not minors or paupers. The Act of 1907 gives the local authority power to use their discretion in each case as to the recovery or remission of the debt.

Section 61.—Contains provisions for the removal to a temporary shelter of persons whose houses are being disinfected, power being given for compulsory removal where necessary.

Section 63.—Prohibits the conveyance of infected persons in public vehicles.

Section 64.—Makes it compulsory on the owner or driver of a public vehicle to give notice to the Medical Officer when he has conveyed an infectious person in such vehicle and to take steps for disinfection.

Section 65.—Extends Section 124 of the Public Health Act, 1875. The latter, it will be remembered, enables a local authority to obtain a Justice's order for the removal to hospital of any person suffering from a dangerous infectious disease in cases where such person is without proper lodging and accommodation. There has been considerable litigation under this section, and Section 65 practically carries out the decision in *Warwick v. Graham* (1899, Q.B. 191). Where this section is in force an order of the Justices can be obtained for removal if the infectious person cannot be effectually isolated so as to prevent the spread of the disease.

Section 66.—Is a revised version of Section 57 of the Infectious Disease Prevention Act, 1890, and deals with the cleansing and disinfecting of houses and infected articles therein.

Section 67.—Will enable Local Authorities to provide nurses for cases of infectious disease in their district which cannot be accommodated in the hospital owing to want of room or cannot be removed to hospital because of danger of the patient.

Section 68.—Prohibits the holding of wakes over the bodies of any person or persons who have died of infectious disease.

Part (5) Common Lodging Houses.

Section 69.—Deals with the registration of keepers. Under the 1875 Act, any person who wished to be registered as a keeper of a common lodging house had only to put in an application supported by a certificate of character, signed by three small rate-payers. Under this Act, Local Authorities are given absolute discretion in the matter. Further, after the adoption of this Act persons newly registered as common lodging house keepers can be so registered for a limited time.

Section 70.—Imposes an obligation on common lodging house keepers to either remain in the lodging house between 9 p.m. and 6 a.m., or to appoint a deputy for this purpose.

Section 71.—Compels Local Authorities to keep a register of deputies and to cancel the registration of any person who is not fit for such purpose.

Section 72.—Enables Local Authorities to cancel the registration of a common lodging house keeper who has been convicted of offences against any Act or Bye-law relating to a common lodging house.

Section 73.—Is intended to abolish a difficulty which has sometimes been experienced in taking action against persons who keep unregistered common lodging houses. Under Section 86 of the Public Health Act, 1875, a penalty is imposed on any *keeper of a common lodging house* who has received lodgers in a house which was not registered, &c. Cases frequently occur, however, where persons who have not been registered as *keepers* of a common lodging house have taken lodgers of the common lodging house variety into their houses on common lodging house terms. It has frequently been the case that summonses against such persons have been dismissed upon the grounds that only registered keepers were liable under this section.

The 1907 Act makes it clear that *any person* taking lodgers of the type mentioned into a house having the character of a common lodging house shall be liable to a penalty.

Section 74.—Compels the provision of sufficient and suitable sanitary conveniences for all common lodging houses.

The remaining parts of this Act deal with Private Streets, Recreation Grounds, Police Regulations, Registration of Marine Stores, Fire Brigades, Sky Signs, &c. In a circular letter sent out by the Local Government Board, on December 23rd, 1907, it is pointed out that no application should be made to have any part or section of the Act put in force unless the Local Authority are satisfied that the powers are really needed, and that

when application is made either for a part or section of the Act a statement should accompany it setting out the grounds on which any particular power is desired.

General Remarks on the Annual Reports.—Article 18 (Section 14) of the Order of the Local Government Board of March, 1891, specifies the information to be contained in the Annual Report. The Article is as follows:—

“The report should be chiefly concerned with the conditions affecting health in the district and with the means of improving those conditions. It should contain an account, brought up to the end of the year under review, of the sanitary circumstances of the district, and of any improvement or deterioration in these circumstances which may have occurred during the year. Care should be taken to report fully and explicitly on the influences affecting or threatening to affect injuriously the public health in the district, and on the action which has been taken, or which may still be needed, with a view to combat these influences. *It is of special importance that the Medical Officer of Health should record what action has been taken to remedy unhealthy conditions which have been reported by him in previous annual reports or in special reports presented during the year under review, and that attention should be called afresh, year by year, to such as remain unremedied.*

“The report should deal with the extent, distribution, and causes of disease, especially of epidemic and notifiable diseases and of tuberculosis within the district; and should give an account of any noteworthy outbreaks of disease which may have engaged the attention of the Medical Officer of Health, during the year under review, stating the result of his investigations into their origin and propagation, and the steps taken by him, or on his advice, with a view to check their spread. Attention should be called to cases in which disease is attributed to the consumption of particular articles of food, including shell-fish.”

“*The Medical Officer of Health, in reporting his proceedings and advice, should put on record whether he has made systematic inspections of his district.* By ‘systematic inspections’ are meant inspections independent of such inquiries as the Medical Officer of Health may have to make into particular outbreaks of disease, or into unwholesome conditions to which his attention has been specially called by complaints or otherwise; and such inspections will include

the house-to-house inspections which may be necessary in particular localities.

“In making systematic inspections, as in much of his other action, the Medical Officer of Health will usually have required the assistance of the Inspector of Nuisances; *and the Medical Officer should include in his report an account of the action which the Inspector may have taken for the removal of nuisances injurious to health.*

“What has been said above with regard to the information which an annual report should contain must be understood not as suggesting that the report should be limited to these subjects, but as indicating the sort of information required by the Board’s Order. Many Medical Officers of Health will doubtless, with great advantage to the administration of their districts, furnish much more detailed information and statistics respecting particular questions to which they have been led by the circumstances of the year to devote attention, or in the investigation of which they may have arrived at definite conclusions. Any information of this kind will be appreciated by the Local Government Board.”

It will be apparent from the Abstracts prepared by me, of the Reports received, that some of them do not furnish very full information. These Abstracts, though very full ones, are, in some instances, more complete than the actual text of the Report received for I have felt it desirable, in several instances, to disinter certain matter buried in tabular statements, which has appeared to me to be of importance.

The arrangement of the matter in some of the Reports leaves much to be desired: things which might well be all placed under one specific heading are not infrequently alluded to in several scattered paragraphs. The alteration of this small matter should present no difficulty.

About a dozen of the Reports were presented in manuscript form, and a few were typewritten. In order that the Councils concerned may have the advantage of a quiet and considered perusal of such Reports, it is very desirable that they should be printed. Those which are not printed have to be typewritten in my office, usually in a rearranged and amplified form, before a proper abstract, or summary of them, can be prepared. The suggestion made as to printing is therefore to be quite frank, not entirely disinterested on my part. But on the other hand, experience shews that a Report which is merely read to a Council, and

which contains a considerable amount of statistical matter, is not so fully appreciated as it would be if it were printed and circulated to each member of the Council a few days beforehand.

Whilst making these critical remarks on some of the Reports received, I must, in fairness, acknowledge the excellence of the majority. These shew that a living interest is taken in the work, and that there is an earnest desire to improve any special sanitary shortcomings.

MEREDITH YOUNG, M.D., D.P.H.

County Medical Officer of Health

Administrative County of Chester.

S U M M A R Y

OF

R E P O R T S

OF

District Medical Officers of Health,

FOR THE YEAR

1 9 0 9 .

SUMMARY OF REPORTS

OF

District Medical Officers of Health,

FOR THE YEAR 1909.

CONGLETON

Municipal Borough.

Medical Officer of Health—DR. P. M. DAVIDSON.
 Population at Census, 1901—10,707.
 Population estimated to middle of 1909—10,707.
 Area in Acres—2,572.
 Birth-rate per 1,000 living—25.9.
 Death-rate per 1,000 living—17.09.
 Death-rate from seven principal Zymotic Diseases—0.9.
 Deaths under one year per 1,000 births—107.

Population.—The population of this Municipal Borough at the Census of 1891, was 10,744, and at that of 1901 it had decreased to 10,707. There are 2885 inhabited houses in the Borough.

The Medical Officer of Health estimates that it has remained stationary since 1901, the natural increase of population by excess of births over deaths being apparently neutralised by emigration. The staple trades of the town—silk and fustian manufacture—are stated to be decaying, and this undoubtedly explains the absence of that progressive numerical increase of population one would otherwise expect to see.

Births and Deaths.—In the year, 278 births and 169 deaths were registered, but to the latter 14 deaths of persons belonging to the district who died in public institutions elsewhere have to be added making the total deaths, 183. This shows a natural increase of the population of 95 against 103 last year.

Of the births 132 were males and 146 females, and the birth-rate was 25.9, against 26.6 last year, and an average of 26.2 for

Congleton Municipal Borough.

the previous 10 years. There were 13 illegitimate births giving a rate of 1.2.

Of the deaths 97 were males and 86 females, and the rate of mortality was 17.09, against 16.9 last year, and an average of 17.2 for the previous 10 years. There were 30 deaths of children under 1 year of age, giving a rate per 1,000 of the births, of 107, compared with 129 last year and an average of 142 for the previous 10 years.

Infectious Disease.—Fifty cases of infectious disease were notified, viz. :—27 of scarlet fever, 11 of diphtheria, 5 of typhoid fever, and 7 of erysipelas. There were 10 deaths from this class of disease, viz. :—2 from typhoid fever, 1 from scarlet fever, 1 from whooping cough and 6 from diarrhœa or epidemic enteritis, giving a rate of 0.9 against 1.2 last year.

The death-rate of children under 1 year of age is much below the average of the last 10 years. All the rates are most satisfactory, except the general death-rate, which is slightly higher than last year, although lower than the average of the previous 10 years. It is difficult to account for this unless it be due to the considerable number of deaths that were due to influenza and pneumonia.

Phthisis.—The mortality from phthisis (0.9) and other forms of tubercular disease (0.2) is less than last year and may be regarded as low.

Typhoid Fever.—Five cases were reported during the year, two of these being imported. Defective drainage was found in connection with two other cases.

Diphtheria.—Eleven cases in all were notified during 1909. It could hardly be said that there was an outbreak of diphtheria, as the cases occurred sporadically, with generally an interval of a month between them. They were all of a mild form, and perhaps the most serious matter in connection with them was the inconvenience occasioned in isolating them and those in contact with them.

Scarlet Fever.—There were 27 cases of this disease notified during the year. About an equal number of the cases occurred in the first and last quarters of the year. Like the diphtheria, the disease was of a mild type; so mild that it was

Congleton Municipal Borough.

frequently difficult to say positively that scarlet fever was the exact diagnosis and probably a few errors were made.

Isolation, &c.—All the houses where infectious diseases occurred were disinfected. One case of typhoid fever, 2 of diphtheria and 3 of scarlet fever were removed to the Isolation Hospital.

Influenza.—Influenza was epidemic in February, March and April, and prevalent at other times in the year. There were 5 deaths returned as directly due to it, but probably most of the 13 deaths from pneumonia which occurred about the same time were also due to it.

Measles.—An extensive epidemic of measles began in June and continued till the end of August. There were not any deaths, although the type of disease could not be said to have been very mild. It was thought well to close one of the schools that seemed to be specially affected for a fortnight or so, and to avoid closing one or two more, the summer holidays were begun two weeks before the usual time, and in this way school attendance was not much interfered with, as the epidemic was at an end long before the holidays.

Dairies and Cowsheds.—Under the dairies and cowsheds order, 91 premises were inspected, and 13 notices served; 4 for want of cleanliness, 2 to remove privy cesspools, 1 to remove a cesspool, 4 for defective drainage, and 2 for defective privies. Most of these defects were remedied by the end of the year.

Factories and Workshops.—Under the Factory and Workshops Act, 110 workshops are registered, including 15 bakehouses, all of which were inspected during the year. Eight notices were served; 4 for want of cleanliness, 1 for insufficient sanitary accommodation and 3 for defective sanitary accommodation. Six of the 8 defects were remedied by the end of the year. All the bakehouses were clean and the sanitary condition satisfactory.

Sale of Food and Drugs Acts.—These are administered under the supervision of the Chief Constable. During the year 36 samples were sent for analysis and all found to be pure.

Common Lodging-houses.—These are also supervised under the direction of the Chief Constable. There are 4 such

Congleton Municipal Borough.

houses registered under the Public Health Act, where accommodation is provided for 84 lodgers, and 20,265 persons were lodged during the year, being an increase of 1491 compared with the previous year. The houses were inspected at least once a week, were kept clean and well conducted, and the sanitary condition was good.

Sanitary Inspection.—The Sanitary Inspector reports that he made 3 inspections of factories, 157 of workshops, 15 of bakehouses, 91 of dairies and cowsheds, and served 22 notices; that he visited 50 infected houses and had 45 of them stoved and disinfected; that 2 streets were sewered and paved, and 8 houses were supplied with town's water. He sent 3 samples of town's water for analysis; made 230 sanitary inspections other than those to infected houses; had 59 privy converted to pail closets, making the number of the latter now in use 2,079, and that 17 pail closets were converted to water closets, and that he served 5 notices in respect to defective water closets; that 1,517 tons of night soil, 1,434 of house refuse and 1,204 tons of pail contents were removed and 782 tons of peat manure sold. He also made 11 inspections of canal boats and did not find anything to complain of.

Veterinary Inspector's Report.—This is a special feature of the Congleton Public Health Administration and one which might with advantage be imitated by other Boroughs.

The Veterinary Inspector reports that there are 13 licensed slaughter houses, 12 of which are in constant use; that 13 rounds of inspection were made and that they were generally found in a clean condition, although in one or two instances the garbage was not removed as quickly as was desirable, especially in the summer time; that in addition to these inspections, on five occasions he was requested by butchers, as a safeguard to themselves, to inspect doubtful carcasses, and that two carcasses of beef and offal were totally condemned as unfit for food, owing to their being tuberculous; that approximately 900 cattle, 3850 sheep and 2100 pigs were slaughtered in the year, and that as a rule the quality of the meat was of a high class; that the frozen meat sheep were daily inspected and nothing of an unusual nature found, owing, he thinks, to the supplies being so carefully regulated that the meat was sold off while in good condition. He also frequently visited on Saturday nights, the fish stalls in the Market Place, but did not find anything to complain of.

CREWE

Municipal Borough.

Medical Officer of Health—DR. G. GRANVILLE BUCKLEY.

Population at Census, 1901—42,074.

Population estimated to middle of 1909—48,584.

Area in Acres—2,185.

Birth-rate per 1,000 living—23.5.

Death-rate per 1,000 living—11.9.

Death-rate from seven principal Zymotic Diseases—0.57.

Deaths under one year per 1,000 births—104.

Crewe was incorporated as a Municipal Borough in April 27th, 1877.

Geology.—The soil upon which Crewe and the neighbouring villages are built consists wholly of drift deposit. The whole of the Borough is built upon a re-deposited boulder clay (red, blue and yellow brick clays), intersected here and there with irregular lines and pockets of sand and gravel, probably the remains of old river and brook courses.

This clay deposit and an underlying bed of stratified clay lie in a hollow of stratified drift sand, and attain a depth of from 12 to 100 feet.

The drift sand rises to the surface in a bay-like curve in the outlying villages of Wistaston, Shavington, Weston, Crewe Green, and Haslington.

The whole of these deposits appear to be laid in a deep hollow in the Keuper; a brook which passes through the centre of the Borough, appearing to have cut down to this formation.

Elevation.—The Borough is situated upon the Valley Brook, a tributary of the river Weaver. The mean elevation is about 170 feet above sea level, and varies from 113 feet at the lowest part of the Sewage Farm to 200 feet at Hightown.

Area.—The Borough has a total area of 2,185 acres, comprising the Civil Parish of Monks Coppenhall and parts of the Civil Parishes of Church Coppenhall, Shavington-cum-Gresty, and Wistaston, the three last-named parts being added on 24th March, 1894, by Order of the Local Government Board.

Crewe Municipal Borough.

Population.—The estimated population at the middle of 1909 was 48,584. This estimate is based upon the number of inhabited houses as ascertained from the rate-books, and the average number of persons per house at the last census. This method of estimating the population differs from that of the Registrar-General, who assumes that the same annual rate of increase will be maintained from 1901 to the next census in 1911, as existed in the period 1891 to 1901. The population as estimated by this method was 50,196 at the middle of 1909.

Both methods are subject to error, which increases with the length of time from the last census. The first method is probably best, although one factor (the average number of persons per house) varies from year to year. At the census of 1891 it was 5.011, and in 1901 it was 4.79. During times of depression in trade, when wages are low, the average house population increases (by two families occupying one house, etc.), and the number of inhabited houses is diminished, with the result that there is shown an apparent check on the increase of the population.

Density of Population.—The average density of the Borough is equal to 22.2 persons to the acre.

Houses and their Classification.—This has been for many years a special feature of the Crewe Health Report.

Number of Houses on the Rate Book, September 30th, 1909.

| | | | | |
|-----------------------|------|-----------------|-----|--------|
| Houses rated under | ... | £5 per annum... | ... | 198 |
| „ „ at £5 and under | £10 | „ „ ... | ... | 6,973 |
| „ „ £10 | £20 | „ „ ... | ... | 2,695 |
| „ „ £20 | £30 | „ „ ... | ... | 311 |
| „ „ £30 | £40 | „ „ ... | ... | 93 |
| „ „ £40 | £50 | „ „ ... | ... | 68 |
| „ „ £50 | £60 | „ „ ... | ... | 20 |
| „ „ £60 | £70 | „ „ ... | ... | 11 |
| „ „ £70 | £80 | „ „ ... | ... | 7 |
| „ „ £80 | £90 | „ „ ... | ... | 11 |
| „ „ £90 | £100 | „ „ ... | ... | 5 |
| „ „ £100 | £200 | „ „ ... | ... | 25 |
| „ „ at £200 and above | „ | „ „ ... | ... | 8 |
| Total ... | | | | 10,425 |

Crewe Municipal Borough.

From this it will be seen that 94.6 per cent. of the houses are rated at less than £20, and 68.7 per cent. at less than £10 per annum.

Houses rated at £5 and under £10 shew an increase of 18

„ „ £10 „ £20 „ „ 27

The number of houses at other valuations remains the same.

Empty Houses.—

| RATEABLE VALUE. | Under £5. | £5, and under £10. | £10, and under £20. | £20, and under £30. | £30, and under £80. | £80, and over. | TOTAL. |
|--|--------------|--------------------------|---------------------------|---------------------------|---------------------------|-------------------|--------|
| Central Ward | 1 | 37 | 12 | 3 | 3 | ... | 56 |
| West Ward | 2 | 105 | 11 | 4 | ... | ... | 122 |
| North Ward | 8 | 70 | 2 | 1 | ... | ... | 81 |
| South Ward | 2 | 9 | 9 | 3 | ... | ... | 23 |
| Borough of Crewe | 13 | 221 | 34 | 11 | 3 | ... | 282 |
| Empty Houses, per cent. of Houses on Rate Books in each group. | } 6.6 | 3.1 | 1.2 | 3.5 | 1.5 | ... | 2.7 |

There are 2 fewer empty houses than in 1908.

New Houses.—The number of plans passed for new houses during 1909 was 51, the lowest figure yet recorded. For some years this figure has been somewhat low. The number of habitation certificates granted was 45, also the lowest figure recorded to date.

Marriages.—The figures for 1909 had not been obtained at the time of issuing the Report. In 1908 there were 232 marriages celebrated, equal to a marriage rate of 9.4 per 1,000 of the estimated population—the lowest figure for about 12 years.

Births.—The number of births registered was 1,120, 566 of males and 554 of females.

The birth-rate per 1,000 of the population was 23.05, being 1.6 per 1,000 lower than in 1908.

Crewe Municipal Borough.

Of the births registered 58 or 5.1 per cent. were illegitimate, as compared with 36 or 3.01 per cent. 1908.

Crewe shares the steady diminution in the birth-rate with the rest of the country. The fall has been specially abrupt during the last two or three years, so that instead of being above that of the country generally the birth-rate of the Borough is now even lower than that of the country as a whole. The birth-rate is the lowest recorded in any year, and the number of the births registered is 73 lower than the preceding year.

Deaths.—The total number of deaths registered within the Borough during 1909 was 551, giving a *gross* death-rate of 11.3 per 1,000.

Seven of the deaths were of persons belonging to other districts, and must therefore be deducted; while 38 deaths of persons belonging to the Borough, but who died outside, must be added. This gives a correct number of 582 and a *corrected* death-rate of 11.9 per 1000.

This represents a fall of 2.2 per 1,000 below the average death-rate of the last ten years.

The Principal Causes of Death.—These are shewn in the following summary :—

| | | | | |
|--|-----|-----|-----|-----|
| Diseases of the Respiratory Organs (excluding Consumption) | ... | ... | ... | 136 |
| Tubercular Diseases (including Consumption) | ... | ... | ... | 49 |
| Diseases of the Circulatory system | .. | ... | ... | 70 |
| Malignant Diseases (Cancer, etc.) | ... | ... | ... | 31 |
| Diarrhoea and Enteritis | ... | ... | ... | 16 |
| Premature Birth | ... | ... | ... | 18 |
| Measles | ... | ... | ... | 1 |

Infantile Mortality.—The number of deaths registered of children under one year of age was 117, as compared with 124 in the preceding year. The proportion of deaths to every 1,000 children born during the year was 104, against 103 for 1908. In the 76 large towns it was 118 per 1,000 births, and in the 143 smaller towns (of which Crewe is one), the rate was 111 per 1,000 births.

The infantile mortality rate of Crewe thus compares favourably with that of the 143 smaller towns. The deaths from diarrhoeal diseases number less than half of those during 1908.

Crewe Municipal Borough.

The deaths from tubercular diseases show an increase, whilst those from other causes remain about the same as last year.

The Health Committee, in 1908, had under consideration the question of adopting the Notification of Births Act, 1907. Owing, however, to the fact that no provision existed for visiting any cases which might be notified, it was decided not to adopt the Act for the present. The Committee agreed to the suggestion that a supply of cards of instruction on Infant Feeding should be given to each Midwife in the Borough for distribution to her patients.

The chief causes of death among infants are stated below:—

| | | | |
|----------------------|-----|-----|-----|
| Diarrhœal Diseases | ... | ... | 11 |
| Respiratory Diseases | ... | ... | 26 |
| Tubercular Diseases | ... | ... | 7 |
| Convulsions | ... | ... | 5 |
| Premature Birth | ... | ... | 18 |
| Debility and Wasting | ... | ... | 20 |
| Measles | ... | ... | 1 |
| Whooping-cough | ... | ... | 2 |
| Other Causes | .. | ... | 27 |
| Total | | | ... |
| | | | 117 |

Of the total deaths 21 (or 18 per cent.) occurred during the first month. Of these 6 were prematurely born; 3 died from debility and marasmus, 2 from gastritis and enteritis; 2 from pneumonia, 3 from bronchitis, 1 from want of attention, 1 from general tuberculosis and 2 were overlain.

There were no uncertified deaths during 1909.

Still-born Children.—The number of still-born children interred in the Cemetery and Coppenhall Churchyard during the year was 73 or 6.5 per cent. of the number of births; 33 were males and 32 females, and in 8 cases the sex was not stated.

| | | Total Number. | | Percentage of total births. |
|-------------|-----|------------------|-----|--------------------------------|
| 1901 | ... | 63 | .. | 4.8 |
| 1902 | .. | 86 | ... | 6.0 |
| 1903 | ... | 64 | ... | 4.4 |
| 1904 | ... | 75 | ... | 5.2 |
| 1905 | ... | 69 | ... | 5.2 |
| 1906 | ... | 78 | ... | 6.1 |
| 1907 | ... | 72 | ... | 5.7 |
| 1908 | ... | 81 | ... | 6.8 |
| 1909 | .. | 73 | ... | 6.6 |

Crewe Municipal Borough.

Inquests.—Inquests were held by the Coroner as to the cause of death in 36 cases. These were eventually returned as due to natural causes in 15 cases, accident or negligence (such as falls, burns, overlying, improper feeding, etc.) in 17 cases, and suicide in 4 cases.

The proportion of inquests per 1,000 deaths was 61.8 as compared with 65.4 in the year 1908.

Particulars of Deaths of Illegitimate Children during 1909.—During the year four deaths among illegitimate children occurred as under :

| Age. | Sex. | Cause of death. |
|----------------|--------|----------------------------|
| 2 years ... | M. ... | Convulsions |
| 5 days ... | F. ... | Atelectasis |
| 2 months .. | M. ... | Asphyxia through overlying |
| 10 minutes ... | M. ... | Premature birth |

The death-rate per 1,000 births of each class among legitimate and illegitimate children are shewn below.

| | 1899 | 1900 | 1901 | 1902 | 1903 | 1904 | 1905 | 1906 | 1907 | 1908 | 1899 |
|---|------|------|------|------|------|------|------|------|------|------|------|
| Infantile death-rate of legitimate children ... | 162 | 138 | 180 | 130 | 147 | 159 | 131 | 118 | 108 | 101 | 106 |
| Infantile death-rate of illegitimate children ... | 228 | 125 | 200 | 156 | 166 | 162 | 256 | 224 | 142 | 166 | 68 |

Vaccination.—The Registrar of the Sub-District of Crewe (Mr. T. W. Lovatt) has kindly supplied the following information for 1909.

| | | | |
|--|-----|-----|------|
| Births registered ... | ... | ... | 1120 |
| Successfully vaccinated ... | ... | ... | 623 |
| Certificates of insusceptibility ... | ... | ... | 4 |
| Certificates of exemption (Conscience Clause) | ... | ... | 275 |
| Had small-pox ... | ... | ... | — |
| Died unvaccinated ... | ... | ... | 83 |
| Postponed by medical certificate | ... | ... | 15 |
| Removal to other districts ... | ... | ... | 70 |
| In abeyance ... | ... | ... | 50 |
| Percentage successfully vaccinated | ... | ... | * |
| Percentage successfully vaccinated excluding those who died unvaccinated | ... | ... | * |

* Figures not to hand.

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Zymotic Death-rate.—The mortality from the seven principal diseases in this group, known as the zymotic death-rate, shews a decrease of 50 per cent. upon last year, and is considerably below the average of the last ten years.

The number of deaths from the principal zymotic diseases during 1909 was as follows : diphtheria and membranous croup, 7 ; enteric fever, 2 ; measles, 1 ; whooping cough, 4 ; diarrhœa, 6.—Total, 20.

Disinfection.—During the year 331 houses were disinfected, the number of houses disinfected after the occurrence of notifiable infectious diseases being 292 ; after deaths from measles, 1 ; after deaths from phthisis, 24 ; after deaths from whooping-cough, 1 ; influenza, 12 ; diarrhœa, 1. In addition to the above three schools were disinfected during the year.

The bedding and clothing from these houses, as well as fifty-three sets of bedding from the Cottage Hospital, were removed to the Isolation Hospital, and disinfected by passing through the Washington Lyon Disinfector.

The following quantities of disinfectants were used during the year :—

| | | | |
|------------------|-----|-----|-------------------|
| Izal | ... | ... | 20 gallons |
| Carbolic Powder | ... | ... | 2 tons |
| Izal Powder | ... | ... | $\frac{1}{2}$ ton |
| Formalin Tablets | ... | ... | 50 lbs. |
| Formalin | ... | ... | 2 gallons |

The number of persons supplied with disinfectants on application at the Sanitary Office was 1,048.

Bacteriological Examinations.—The number of specimens received from Medical Practitioners in the Borough for examination during the year was 109, of which 36 proved positive and 73 negative.

| Specimen. | | Number received | Result | |
|---------------------|-----|-----------------|----------|----------|
| | | | Positive | Negative |
| Typhoid Fever—Blood | ... | 14 | 3 | 11 |
| Diphtheria—Swab | ... | 55 | 15 | 40 |
| Phthisis—Sputum | ... | 39 | 18 | 21 |
| Others | ... | 1 | ... | 1 |
| Totals | ... | 109 | 36 | 73 |

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Small-pox.—There were no cases notified during the year. The last occasion upon which this disease appeared in the Borough was 1903.

Diphtheria.—

| | | | |
|---------------------------|-----|-----|-----|
| Cases notified | ... | .. | 121 |
| Deaths | ... | ... | 7 |
| Fatality per cent. | ... | ... | 5.7 |
| Cases removed to Hospital | ... | ... | 98 |

Cases and deaths in previous years since 1897 :—

| | 1897 | 1898 | 1899 | 1900 | 1901 | 1902 | 1903 | 1904 | 1905 | 1906 | 1907 | 1908 |
|------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Cases | ... | 66 | 40 | 46 | 36 | 112 | 136 | 150 | 53 | 47 | 32 | 37 |
| Deaths | ... | 11 | 3 | 14 | 4 | 16 | 28 | 18 | 3 | 4 | 4 | 6 |
| Fatality % | ... | 16.6 | 7.5 | 30.4 | 11.1 | 14.2 | 20.5 | 12.0 | 5.6 | 8.5 | 12.5 | 16.2 |

The number of cases notified was 82 more than in 1908, and is 55 over the average yearly number reported since notification began. The number of deaths was 7, one less than in 1908, and the fatality is consequently lower. The average annual number of deaths since 1874 has been 4.

The disease showed little tendency to spread until August, when six cases were reported—four of them occurring in the Boys' Department of the Hightown Council School. The number of monthly notifications then rapidly rose to 16 in September and 29 in October, falling again to 24 in November and 21 in December.

Diphtheria is usually more prevalent in the autumn and winter months than during the other portion of the year, and its prevalence seems to be favoured by a damp soil.

The chief means of spread are (1) by personal contact and (2) by milk. No instance has, during the present epidemic, come to notice of infection by milk, but the disease appears to have been spread by personal contact—chiefly through school children. Out of the 121 cases notified 76 occurred in school children.

Of the persons affected and not attending school 19 were under and 26 over school age. A number of these contracted the disease from other members of the family who were attending school.

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The number of families affected were 105, and in 13 of these two or more cases occurred.

92 families had 1 case each.

| | | | | | |
|----|---|---|---|-------|---|
| 10 | „ | „ | 2 | cases | „ |
| 3 | „ | „ | 3 | „ | „ |

Of the total number of persons affected 53 were males and 68 females.

The ages of those attacked were :

| | | |
|---------------|----|--------|
| Under 5 years | 19 | cases. |
| 5-10 | 58 | „ |
| 10-15 | 21 | „ |
| 15-20 | 10 | „ |
| 20 & over | 13 | „ |

Ninety-eight cases were removed to hospital, of whom five died ; twenty-three were treated at home, of whom two died.

Of the 98 cases removed to the hospital

4 were admitted on the 1st day of the disease.

| | | | | | | | | |
|----|---|---|---|-----|---|---|---|---|
| 23 | „ | „ | „ | 2nd | „ | „ | „ | „ |
| 29 | „ | „ | „ | 3rd | „ | „ | „ | „ |
| 16 | „ | „ | „ | 4th | „ | „ | „ | „ |
| 11 | „ | „ | „ | 5th | „ | „ | „ | „ |
| 9 | „ | „ | „ | 6th | „ | „ | „ | „ |
| 2 | „ | „ | „ | 7th | „ | „ | „ | „ |
| 2 | „ | „ | „ | 8th | „ | „ | „ | „ |
| 2 | „ | „ | „ | 9th | „ | „ | „ | „ |

The majority of the cases were detained in hospital for about four weeks, but owing to the persistence of infection in many of them they were detained beyond that period—in one case for 58 days. Of the 98 cases admitted to hospital 5 had a fatal termination—a case mortality of 5·4 per cent. These were all children under 6 years of age, and were admitted to hospital on the 3rd, 4th, or 5th day of the disease, and died 6½ hours, 9½ hours, 10 hours, 1 day, and 2 days respectively after admission.

In addition to the usual measures for dealing with diphtheria, hospital isolation, disinfection, bacteriological diagnosis, &c., the Health Committee have, since 1900, provided antitoxin, first at cost price and since 1901 free of cost, but it is intended that the free supply of antitoxin be only taken advantage of in the case of people too poor to pay for it.

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During the year 276 vials, each containing 2,000 units, were used in this way.

Scarlet Fever.—

| | | | |
|---------------------------|-----|-----|-----|
| Cases notified | ... | ... | 149 |
| Deaths ... | ... | ... | 0 |
| Cases removed to Hospital | ... | ... | 137 |

The number of cases notified is below the yearly average. The greatest number notified in any one month was 26 in August.

No deaths have occurred from scarlet fever during the year. Only twice previously has this been the case, viz.: in 1884 and 1890.

Of the total number of cases 74 were males and 75 females. The ages of those attacked were:—

| | | | |
|---------------|-----|-----|-----------|
| Under 5 years | ... | ... | 35 cases. |
| 5—10 | „ | ... | 79 „ |
| 10—15 | „ | ... | 25 „ |
| 15—20 | „ | ... | 4 „ |
| 20 and over | ... | ... | 6 „ |

The number of families affected was 123, and in 20 of these two or more cases occurred.

103 families had 1 case each.

| | | | | |
|----|---|---|---------|---|
| 16 | „ | „ | 2 cases | „ |
| 2 | „ | „ | 3 | „ |
| 2 | „ | „ | 4 | „ |

The following is a list of cases discharged from hospital during 1909, which on returning home were followed by one or more subsequent cases in the same house:—

| Name. | Age. | Date of Admission. | Date of Discharge. | Next Case. |
|----------|------|--------------------|--------------------|-------------|
| H. C. | 6 | April 14th | June 18th | July 9th |
| C. L. | 4½ | May 31st | July 16th | „ 24th |
| C. R. H. | 10 | June 10th | „ 27th | August 16th |
| T. W. | 6 | „ 18th | August 10th | „ 17th |

It will be seen that the interval between the return of the discharged patient to his home and the admission of the next case into hospital varies from 7 to 21 days.

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Every effort is made to ensure efficient disinfection before dismissal from the hospital. The skin and hair of each patient receive most careful treatment, ears, nose and mouth are douched with an antiseptic lotion, and a disinfectant bath is given before dismissal.

Before dismissal of each case the parents receive a printed warning to the effect that, while every precaution has been taken, freedom from infection cannot be guaranteed. Instructions are also given to keep the discharged case apart from other children for a fortnight at least, or at least not to sleep in the same bed as other children, and for kissing to be prohibited.

Probably the most common cause of "return" cases of scarlet fever is the nasal discharge which frequently develops some time after the child's return home from hospital. A few cases may also be due to the bringing out of toys or clothes which were put away and not allowed to be disinfected on the child's removal to hospital.

Enteric Fever.—

| | | | |
|--------------------|-----|-----|----|
| Cases notified | ... | ... | 10 |
| Number of deaths | ... | ... | 2 |
| Fatality per cent. | ... | ... | 20 |

Of the 10 cases 8 were removed to the Isolation Hospital and one died; two were nursed at home and one died. The ages of the fatal cases were 17 and 5 years respectively.

Five of the notified cases occurred in families living a few doors from one another. These families were three in number—two cases occurring in each of two families, and one in the third. The last mentioned case gave a negative result with Widal's test on three separate occasions.

All the above mentioned families were supplied with milk from the same farm. The matter was investigated but no connection with this source could be made out. No cases of suspicious illness had occurred on the farm, nor were any insanitary conditions found, the farm being unusually well kept.

Diarrhœa—

| | | | |
|----------------------|-----|-----|------|
| Number of deaths | ... | ... | 14 |
| Death-rate per 1,000 | ... | ... | 0.28 |

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The diseases grouped under this heading include all the forms of diarrhœa, known variously as epidemic and zymotic enteritis; epidemic and summer diarrhœa; dysentery and dysenteric diarrhœa, cholera (not Asiatic) and cholera nostras; and in addition as regards deaths under one year of age, enteritis (non tuberculous); muco-enteritis, gastro-enteritis, and gastritis and gastro-intestinal catarrh.

The designation recommended by the Royal College of Physicians in the fourth edition of "The Nomenclature of Disease," for the specific infectious disease commonly known as epidemic diarrhœa, is infective enteritis. It is to be hoped that this name will now be used generally by medical men, as the many names used in the past have led to much confusion and difficulty in classifying the disease.

The number of deaths registered from these causes was 14, as compared with 27 in 1908. The average number of deaths each year since 1874 is 26.

Diarrhœa only becomes epidemic in long periods of warm weather accompanied by deficient rainfall. The disease does not usually become common until the temperature 4 feet below the surface of the ground reaches 56 degrees Fah. This usually happens about August or September—the third quarter of the year. Cold and wet seasons do not favour its development. There is an enormous difference between the percentages of cases in breast-fed and artificially-fed infants. This is probably explained by the readiness with which putrefactive changes occur in milk during the summer months.

Unfortunately, many mothers still use feeding-bottles with long india-rubber tubes. It is impossible to keep the latter clean, and, consequently, they become very foul inside after a little use. If for any reason a child must be artificially fed, it is advisable to use one of the boat-shaped bottles without a tube.

Measles.—

| | | |
|----------------------|-----|------|
| Number of deaths ... | ... | 1 |
| Death-rate per 1,000 | ... | 0.02 |

The number of deaths registered is six less than in the preceding year. The average annual number of deaths since 1874 is eleven.

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Measles has not attained epidemic proportions at any time during the year and no school has required closure.

Whooping-cough.—

| | | |
|----------------------|-----|------|
| Number of deaths ... | ... | 4 |
| Death-rate per 1,000 | ... | 0.08 |

The number of deaths registered is the same as the preceding year. The average annual number of deaths since 1874 is eleven.

Erysipelas—

| | | |
|------------------------|-----|----|
| Cases notified ... | ... | 29 |
| Number of deaths ... | ... | 0 |
| Fatality per cent. ... | ... | 0 |

The parts affected were:—The face, 14 cases; other parts, 15 cases.

Puerperal Fever.—

| | | |
|----------------------|-----|---|
| Cases notified ... | ... | 5 |
| Number of deaths ... | ... | 0 |

Five cases of this disease were notified during 1909, and four of them occurred in the practices of registered midwives.

Two cases occurred in the practice of one midwife. Unfortunately the conditions under which some of the midwives—especially the older ones—conduct their practices leave much to be desired. Gradual improvement is, however, being effected.

Tuberculous Phthisis.—

| | | |
|----------------------|-----|-----|
| Number of deaths ... | ... | 31 |
| Death-rate per 1,000 | ... | 0.6 |

The number of deaths is 9 more than the preceding year, and is one more than the average yearly number of deaths since 1874.

Sixteen of the deaths were of males and 15 of females.

In 1906 the Health Committee applied to the Local Government Board to have consumption made a compulsorily notifiable disease, but were unsuccessful. It was therefore

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decided to ask the medical men of the town to notify cases voluntarily and to admit suitable cases into an empty ward at the Isolation Hospital. Early in 1909 an open revolving shelter to hold two beds was erected in the Hospital grounds and this is now used instead of an empty ward. The object aimed at is a two-fold one:—1, to improve the health of the patient, and 2, to educate him in the methods calculated to prevent the spread of infection. He is taught the value of fresh air, how to dispose of his sputum, &c.

Seven cases have been admitted to the shelter during 1909, and, with the exception of one patient who only remained three days on account of the inclement weather, remained for periods varying from 4 to 12 weeks.

The following are a few particulars of these cases:—

1. M. Aged 29. French polisher. Admitted Jan. 25th, discharged Feb. 21st. Weight on admission 120½lbs., ditto on discharge 125½lbs. Condition much improved.

2. M. Aged 17. Teacher. Admitted April 21st, discharged July 13th. Weight on admission 109½lbs., ditto on discharge 126½lbs. Great improvement.

3. M. Aged 32. Labourer. Admitted June 7th, discharged August 3rd. Weight on admission 154¾lbs., ditto on discharge 155lbs. Slight improvement.

4. M. Aged 22. Admitted August 4th, left August 7th.

5. M. Aged 26. Soldier. Admitted August 30th, discharged October 1st. Weight on admission 101lbs., ditto on discharge 105lbs. This was an advanced case in which the larynx was also affected. Very little change in condition.

6. M. Aged 35. Fireman. Admitted Sept. 29th, discharged Oct. 26th. Weight on admission 151½lbs., ditto on discharge 161lbs. Much improved.

7. M. Aged 22. Coachbuilder. Admitted Nov. 15th, discharged Dec. 20th. Weight on admission 136lbs., ditto on discharge 147lbs. Much improved.

Enquiries into the after history of these cases elicited the fact that one (No. 5) had since died, a second was well but was not working, while the remainder were following their regular employment.

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On January 1st, 1909, the Public Health (Tuberculosis Regulations 1908, came into force. This provides for the notification by poor law medical officers of cases of phthisis occurring in their practices. Eleven such cases have been notified during the year. They have been visited periodically and suitable advice given. Any insanitary conditions have been noted and dealt with and disinfection of the premises carried out where necessary.

Other Tubercular Diseases.—

| | | | |
|----------------------|-----|-----|------|
| Number of deaths ... | ... | ... | 18 |
| Death-rate per 1,000 | ... | ... | 0.37 |

The number of deaths registered from these diseases is 2 less than in 1907.

Females contributed 7 deaths and males 11—these were chiefly children, there being only three deaths over 10 years of age.

Influenza.—

| | | | |
|----------------------------------|-----|-----|------|
| Number of deaths ... | ... | ... | 19 |
| Mortality per 1000 of population | ... | ... | 0.39 |

The number of deaths registered from this cause was eighteen more than in 1908.

Cancer and other Malignant Diseases.—From this cause 41 deaths were registered. The number of deaths each year since 1898 is as follows:—

| Years | 1898 | 1899 | 1900 | 1901 | 1902 | 1903 | 1904 | 1905 | 1906 | 1907 | 1908 | 1909 |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|
| Deaths | 21 | 25 | 19 | 32 | 35 | 24 | 25 | 29 | 28 | 40 | 31 | 41 |

Twenty-two of the deaths were of females, and 19 of males. Thirty-nine were registered as carcinoma and two as sarcoma. The parts affected and deaths from each were:—tongue 1, stomach 3, intestine 7, liver 5, neck 3, breast 6, uterus 3, larynx 2, various 11.

Hospital Accommodation.—The accommodation provided for the isolation of infectious diseases (apart from small-pox) consisted originally of two ward pavilions and an observation block, containing in all 28 beds. This has been in use since October 16th, 1897, and was erected at a cost of 9,500 (including the cost of the site). Owing to the rapid increase in the population, and the increasing number of patients treated, it was found necessary to enlarge the hospital by the addition of a two ward pavilion for diphtheria, together with extra housing accommodation for the

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nursing staff. The additions were commenced at the beginning of 1903, and were ready for occupation on the 30th March, 1904. The plans for the extension were prepared by George Bolshaw, Esq., of Southport, who was the architect for the original hospital, and the work was carried out by Messrs. Garner and Son, of Crewe. The total cost of the pavilion and addition to the house was £3,066.

The Small-pox Hospital is situated upon the Corporation Farm, on the north side of Pym's Lane, off Minshull New Road. As it originally existed, excluding the part occupied by the caretaker and his family, there were two bedrooms available for patients, with suitable accommodation for a nurse. During 1903, further accommodation was provided by fitting up a small galvanised iron pavilion alongside the farm house. The hospital has been unoccupied during the year, but has been kept ready for any emergency.

The full staff consists of the matron, 8 nurses (2 charge, 4 assistant, and 2 probationer nurses), and 6 maids (cook, housemaid, scullery maid, 2 ward maids, and laundry maid). There is a non-resident ambulance attendant, who also acts as disinfecter for the Health Department, and a gardener. Occasional extra assistance has to be obtained in the laundry and grounds.

The following statement shews the number of cases dealt with during 1909 :—

| | In Hospital Dec. 31st, 1908 | Admitted | Discharged | Died | In Hospital Dec. 31st, 1909 |
|--------------------|-----------------------------------|----------|------------|------|-----------------------------------|
| Scarlet Fever ... | 14 | 137 | 142 | ... | 9 |
| Diphtheria ... | 1 | 98 | 79 | 5 | 15 |
| Enteric Fever ... | ... | 8 | 7 | 1 | ... |
| Puerperal Fever .. | ... | 4 | 4 | ... | ... |
| Phthisis ... | .. | *6 | *6 | ... | ... |
| Erysipelas ... | ... | 1 | 1 | .. | ... |
| Totals ... | 15 | 254 | 239 | 6 | 24 |

* One Patient suffering from Phthisis who only remained in the hospital for three days is not included in the above total.

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In addition to the disinfection of bedding and clothing taken from infected houses or from Hospital wards, it will be seen that a considerable amount of work has been done for the Cottage Hospital in disinfecting bedding which has become infected with septic discharges.

The following statement of expenditure for the year ending 31st December, 1909, has kindly been furnished by the Borough Treasurer :—

Expenditure.—

| | £ | s. | d. | £ | s. | d. |
|---|-----|----|----|------|----|----|
| Salaries of Matron, Nurses, etc. | | | | 311 | 0 | 9 |
| Porters' Wages (proportion) ... | | | | 86 | 12 | 10 |
| Nurses' Uniform ... | | | | 20 | 17 | 0 |
| Maintenance of Patients and Staff :— | | | | | | |
| Groceries ... | 183 | 8 | 0 | | | |
| Butchers' Meat ... | 95 | 19 | 7 | | | |
| Fish, Ice, etc. ... | 13 | 12 | 8 | | | |
| Vegetables ... | 9 | 9 | 3 | | | |
| Milk ... | 89 | 18 | 0 | | | |
| Bread ... | 51 | 15 | 4 | | | |
| Stimulants ... | 6 | 11 | 0 | | | |
| | | | | 450 | 13 | 10 |
| Druggists' Sundries and Antitoxin ... | | | | 72 | 5 | 2 |
| Drapery, Crockery, Hardware, Cleaning Materials, etc. ... | | | | 90 | 19 | 0 |
| Repairs to Vans, Laundry Fittings, Disinfector, Electric Light Fittings, etc. ... | | | | 36 | 6 | 1 |
| Maintenance of buildings, Painting, etc. ... | | | | 40 | 8 | 7 |
| Gas ... | | | | 28 | 7 | 11 |
| Electricity ... | | | | 81 | 19 | 9 |
| Water ... | | | | 44 | 1 | 3 |
| Rates and Taxes ... | | | | 60 | 15 | 2 |
| Insurance ... | | | | 10 | 8 | 7 |
| Telephone charges ... | | | | 11 | 0 | 0 |
| Fuel ... | | | | 162 | 5 | 4 |
| Cultivation of Grounds ... | | | | 59 | 8 | 8 |
| Horse hire for Ambulance, etc. ... | | | | 91 | 2 | 0 |
| Carried forward ... | | | | 1686 | 11 | 11 |

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| | | £ | s. | d. |
|---|-----|--------------------------|----|----|
| Brought forward | ... | 1686 | 11 | 11 |
| Rent of Small-pox Hospital | ... | 20 | 0 | 0 |
| Interest on cost of Electric Main | ... | 13 | 11 | 9 |
| Printing, Stationery, Advertising, and Postages ... | ... | 13 | 12 | 2 |
| Shelters for Phthisical Patients | ... | 49 | 9 | 8 |
| Minimax Fire Extinguishers | ... | 24 | 15 | 0 |
| Asphalting walks | ... | 4 | 1 | 10 |
| Furniture and Repairs | ... | 8 | 16 | 4 |
| Sundries | ... | 6 | 0 | 3 |
| | | <hr/> £1,798 18 11 <hr/> | | |

Income.—

| | £ | s. | d. |
|---|----------------------|----|----|
| Removal and Maintenance of Patients | 41 | 17 | 0 |
| Rent of Land | 1 | 10 | 0 |
| Contribution from Cheshire County Council under Isolation Hospital Acts | 261 | 1 | 1 |
| | <hr/> £304 8 1 <hr/> | | |

The cost of maintenance per case; the average daily number of patients, and their average residence, &c., since 1905, are shewn in the following table:—

| Year. | Patients. | | | Total expenditure. | Average cost per patient. | Daily cost per head for provisions | Provisions |
|-------|----------------|-----------------------|----------------------------|--------------------|---------------------------|------------------------------------|------------|
| | Total treated. | Average daily number. | Average residence in days. | | | | |
| | | | | £ s. d. | £ s. d. | s. d. | £ s. d. |
| 1905 | 160 | 16.7 | 38.5 | 1,592 0 3 | 9 19 0 | 1 7½ | 488 19 2 |
| 1906 | 141 | 16.0 | 41.6 | 1,408 12 9 | 9 19 9 | 1 3½ | 384 15 8 |
| 1907 | 420 | 38.8 | 32.7 | 1,893 9 1 | 4 10 1 | 0 10¾ | 601 8 3 |
| 1908 | 285 | 31.3 | 41.1 | 2,182 12 9 | 7 13 1 | 1 1¾ | 661 16 7 |
| 1909 | 254 | 25.6 | 36.8 | 1,779 18 11 | 7 0 1 | 0 11¾ | 450 13 10 |

N.B.—The above calculations of cost do not include repayment of principal, nor payment of interest on capital. The rent of the small-pox hospital is also deducted.

*Crewe Municipal Borough.***The Average Length of Stay in Hospital has been—**

| | | | |
|--|-----|-----|-------------|
| Scarlet Fever Patients | ... | ... | 44.08 days. |
| Diphtheria and Membranous Croup Patients, excluding cases which died | ... | ... | 29.04 „ |
| Diphtheria and Membranous Croup Patients, including cases which died | ... | .. | 27.4 „ |
| Enteric Fever Patients, excluding cases which died | | | 41.6 „ |
| Enteric Fever Patients, including cases which died | | | 40.8 „ |
| Puerperal Fever | ... | ... | 18.5 „ |

Inspections and General Work.—The premises which have been kept under regular supervision include 15 private slaughter-houses, 45 cowsheds, 73 dairies and milkshops, 9 common lodging-houses, 1 house let in lodgings, 282 factories and workshops, and also premises which are specially liable to create nuisances, viz.: pig-styes, stables, marine stores, fried fish shops, &c.

Reconstruction of Privies, &c.—The following figures give the approximate numbers of the different forms of closets, &c., existing in the town at the end of 1909:—

| | | | |
|-----------------------|-----|-----|-------|
| Water-closets | ... | ... | 6,726 |
| Waste Water-closets | ... | ... | 1,016 |
| Pail Closets | ... | ... | 3,141 |
| Fixed Receptacles | ... | ... | 2 |
| Covered Privy Middens | ... | ... | 522 |
| Uncovered Ashpits | ... | ... | 45 |
| Covered Ashpits | ... | ... | 2,522 |
| Dustbins | ... | ... | 7,124 |
| Baths | ... | ... | 1,798 |

The number of privy middens, &c., converted into water-closets is 202. It was not necessary to take proceedings in any instance.

The following shews the number and nature of the reconstructions effected during the year:—

| | Dust-bins | Covered Ashpits | Privy Pails | Water Closets | Waste Water Closets |
|---|-----------|-----------------|-------------|---------------|---------------------|
| 159 Mixens were converted into .. | 51 | 108 | 19 | 140 | — |
| 31 Privy Pails were converted into | — | — | — | 31 | — |
| 12 Ashpits were converted into ... | 12 | — | — | — | — |

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The total number of re-constructions was therefore 202, these being converted into 171 clean water-closets, and 19 privy pails, with 63 dustbins and 108 covered ash-pits.

Offensive Trades.—There are now two gut-scraping businesses carried on in the Borough. One of these was established in 1905, in Richmond Road, and the premises are of modern construction. Both businesses from a sanitary point of view are well regulated and have been conducted so as to be free from nuisance.

Cowsheds.—There are 45 cowsheds in the Borough. These are frequently inspected and suggestions for improvements are made. The standard of cleanliness in some of them is not very high. It is hoped to obtain an improvement in this respect in the near future.

Dairies and Milkshops.—There are 73 premises on the register where a retail trade in milk is carried on, but there is reason to believe that this does not represent the total number of milkshops.

The large number of these shops renders it difficult to keep them under proper supervision, and many of them are unsuited for their purpose owing to the lack of proper storing room for the milk. Thus, in most cases, the milk is kept in an earthenware or tin vessel on the counter or a shelf in the shop. There has also, on several occasions during the year, been reason to complain of the want of cleanliness both of the vessels in which the milk is stored and of the premises.

The following additional regulation prescribing precautions to be taken by purveyors of milk and persons selling milk by retail in the Borough, against infection or contamination, came into force on August 1st, 1906:—

“Every purveyor of milk or person selling milk by retail shall cause every vessel containing milk for sale to be kept properly covered, or to be otherwise sufficiently protected from contamination by dust or flies.”

Unfortunately some of the retailers of milk do not realise the importance of this matter and have provided either an unsuitable cover or none at all.

In 55 instances the milk was kept in the shop, in four instances in the kitchen, in two the scullery, in one the cellar,

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in two in a shed in the back yard, in one in a tin vessel in the back yard, in one in a specially built dairy, and the remainder in miscellaneous places (hall, &c.)

In 46 cases the receptacles were covered at the time of the visit, and in 27 they were uncovered, while 8 retailers had not provided any covers at all.

The materials of which the covers consisted were as follows:—

| | | | | | | |
|-----------------|-----|----|----------------------------|-----|-----|---|
| Muslin | ... | 14 | Paper | ... | ... | 3 |
| Linen | ... | 14 | Tea tray | ... | ... | 1 |
| Perforated Zinc | ... | 4 | Piece of curtain | ... | ... | 1 |
| Wood | ... | 10 | Tin with wire gauze centre | ... | ... | 2 |
| Tin | ... | 16 | None | ... | ... | 8 |

Probably the best cover is very fine wire gauze stretched on a wire frame.

Common Lodging-houses.—There are 9 houses in the Borough now registered as common lodging-houses. Every effort is made to see to these being kept in a sanitary condition, and the houses are fairly well conducted. Their defective structural character makes it difficult for the keepers to maintain them in a thoroughly satisfactory state.

Houses let in Lodgings.—There is one house on the register, and this has been kept in a satisfactory condition.

Slaughter-houses and Meat Inspection.—There are 15 slaughter-houses in the Borough. They are kept in a fairly satisfactory condition. In many instances, however, the offal is not removed frequently enough. The premises are visited periodically by the Inspector and the Medical Officer, and the Butchers themselves, as members of the Butchers' Vigilance Association, report to the Medical Officer any carcasses that are suspected to be diseased.

During the year four carcasses have been submitted for examination. All were found to be slightly affected with tuberculosis, and the affected portions were destroyed. The value of the beasts varied from £11 5s. 0d. to £16 12s. 6d.

Attention should be directed to the "blowing" of carcasses for sale. This practice is quite unnecessary and should be

Crewe Municipal Borough.

discontinued, or at least should be done by mechanical means. It is possible for a healthy carcase to be infected in the process of "blowing" if the butcher happens to be suffering from such a disease as consumption.

Ice Cream Premises.—A constant supervision has been maintained over the premises where ice cream is made and sold. The premises were at all times found in a cleanly condition.

Factories and Workshops.—There are 76 factories and 206 workshops in the Borough. The latter include a great many places, such as dressmakers' establishments, where the business is a small one, and is carried on in a room of the dwelling-house set apart for the purpose. It sometimes happens that in such small workshops the business is carried on somewhat intermittently, and changes of address are frequent. This makes it difficult to keep an absolutely correct register, but so far as possible all changes have been followed up. They have been inspected at regular periods.

The condition of the workshops generally has been very satisfactory, although there were a few exceptions with regard to cleanliness. Ten notices relating to limewashing were sent out and complied with.

There are now no underground bakehouses in the Borough. The sanitary condition of all the premises was very satisfactory.

List of homeworkers have been received from the four firms employing outworkers.

Water-supply.—The water-supply is owned by the London and North Western Railway Company, and is obtained from artesian wells at Whitmore, Staffordshire. The quality of the water for drinking purposes is excellent, although somewhat hard for domestic and laundry use. The supply has never failed even after the most prolonged drought.

Sewage Disposal.—The bulk of the sewage is being disposed of on the Corporation Farm, and a small proportion by the double contact method. Toward the end of 1907 a new circular continuous filter was constructed on the site of one of the secondary contact beds. The samples taken immediately after it had started work were naturally not satisfactory, but after several months' working an effluent

Crewe Municipal Borough.

well within the requirements of the County Council has been produced.

Back Passages.—The paving of fourteen back passages has been completed during the year.

Sewers and Sewer Ventilation.—New sewers were laid in the following streets:—

Fletcher Street.

Elizabeth Street.

Market Street (continuation to Cemetery).

Five additional sewer ventilating shafts erected during 1909.

Unwholesome and Dirty Houses.—Notices were issued for the cleansing and limewashing of 92 houses. In 16 instances a second notice had to be issued before the work was carried out.

Contagious Diseases of Animals.—The Sanitary Inspector acts also as Inspector under the Contagious Diseases (Animals) Act and the Swine Fever Order. Every Monday he is in attendance at the Cattle Market to receive declarations regarding swine brought for sale and to give orders for removal of swine from the market.

The number of licences issued by him for the removal of swine was 4,228, as against 4,053 for 1908.

Several blood specimens from animals which had died suddenly were examined by the Medical Officer for the Veterinary Surgeon.

Scavenging.—This is done by the Council's own staff. The total cost of day work was £1,928 7s. 5d., and of night work £994 7s. 7d. The day work cost on an average 3s. 5½d. per load, and the night work 5s. 11½d. per load. Special sacks for paper and packing material, &c., from trade premises are in use, and the system has proved beneficial.

Sanitary Inspector's Report.—The Chief Sanitary Inspector of Crewe, Mr. William Urquhart, has a somewhat varied list of duties to carry out, but the following summary is one dealing with such work as falls to his lot in his capacity of Sanitary Inspector:—

Crewe Municipal Borough.

| | | | | |
|--|-----|-----|-----|------|
| Defective house drainage | ... | ... | ... | 198 |
| „ Manure receptacles | ... | ... | ... | 4 |
| „ Ashpits | ... | ... | ... | 106 |
| „ Privy middens | ... | ... | ... | 184 |
| „ Pail privies | ... | ... | ... | 280 |
| „ Cesspool privies | ... | ... | ... | 4 |
| „ Water-closets | ... | ... | ... | 106 |
| „ Paving of yards and passages | ... | ... | ... | 92 |
| „ Urinals | ... | ... | ... | 4 |
| „ Eaves and rain-water spouting | ... | ... | ... | 54 |
| „ Ventilating shafts (drains) | ... | ... | ... | 7 |
| „ Channel shoots | ... | ... | ... | 49 |
| „ Sink pipes | ... | ... | ... | 13 |
| Nuisances from offensive accumulations | ... | ... | ... | 20 |
| „ „ keeping of animals | ... | ... | ... | 4 |
| „ „ offensive pools, ditches, etc. | ... | ... | ... | 6 |
| House drains tested | ... | ... | ... | 155 |
| Visits to cowsheds | ... | ... | ... | 100 |
| „ Common lodging-houses | ... | ... | ... | 203 |
| „ slaughter-houses | ... | ... | ... | 294 |
| „ Infectious disease cases | ... | ... | ... | 316 |
| Notices for renewal of defective privies and ashpails | ... | ... | ... | 503 |
| Statutory notices served | ... | ... | ... | 173 |
| Persons supplied with disinfectants on application to office | ... | ... | ... | 1048 |
| Visits to Ice Cream Shops | ... | ... | ... | 16 |
| „ Bakehouses | ... | ... | ... | 75 |
| „ Fried Fish Shops | ... | ... | ... | 84 |
| „ Pigstyes | ... | ... | ... | 80 |
| „ Offensive trades | ... | ... | ... | 51 |

DUKINFIELD

Municipal Borough.

Medical Officer of Health—DR. J. R. S. PARK.

Population at Census, 1901—18,929.

Population estimated to middle of 1910—20,500.

Area in Acres—1,405.

Birth-rate per 1,000 living—23.9.

Death-rate per 1,000 living—15.12.

Death-rate from seven principal Zymotic Diseases—1.17.

Deaths under one year per 1,000 births—157.

Dukinfield was a Local Board District in 1857, an Urban District Council in 1895, and was incorporated in 1899.

Physical Features.—Dukinfield is situated on the left bank of the River Tame, a tributary of the Mersey, and whilst many factories and workshops are almost on the same level as the river, most of the houses are built on the hillside; and in the eastern portion of the town the elevation is considerable.

The central portion of the Borough is fairly congested, but other portions, and more particularly the eastern portion, consist of farm lands and open spaces; so that Dukinfield although essentially a manufacturing town is in part distinctly rural and finds employment for many small milk farmers. The sub-soil is in part a loamy clay and in part sandstone, and underneath these are the coal measures. Although at the present moment no coal pits are working, for many years coal mining was a very important industry in the district.

Occupations of Inhabitants.—The chief occupations of the inhabitants are:—cotton manufacture (both spinning and weaving), engineering, boilermaking, electric works, soap works, dye works and rope manufacture; and of recent years carriage and wagon works have been built by the Great Central Railway Company. None of these industries are specially injurious to the health of the workers who, as a rule, are a fairly healthy class of men and women.

House Accommodation.—The house accommodation is, on the whole, decidedly good. Much of the worst property has been demolished or remains unoccupied. The majority of the people in the town belong to the working class, and during the last few years many excellent cottage houses have been built,

Dukinfield Municipal Borough.

fitted with modern sanitary arrangements and conveniences and with plenty of air space. The number of plans submitted and passed for new houses is 18, compared with 50 in 1908, 61 in 1907, 61 in 1906, and 24 in 1905. In every case the drains are thoroughly tested by the Surveyor, and strict supervision is taken by him as regards structure and air space and fitness for habitation.

A list of back to back houses is kept, and the worst class property is kept under careful and periodical inspection, and improvements and alterations are insisted upon being carried out.

Overcrowding is carefully watched, and the condition of the poorer and neglected children reported upon to the Inspector of the Prevention of Cruelty to Children Society.

Population.—This is estimated for mid-year 1909 as 20,500. There are $1\frac{1}{2}$ less inhabited houses than in 1908. The density taken over the Borough as a whole is 14.6 persons per acre.

The number of children on the books at the various Schools in the town has decreased year after year from 1901 to 1905 from 3,564 to 3,171, and for the first time in 1906 there was a slight increase on the previous year, which has been maintained in 1907 and 1908. This is a question which, of course, affects not only the population but also the diminishing birth rate in Dukinfield as in the rest of the country. In 1909 the number of children attending school shows a decrease.

Births.—There were 491 births, namely, 247 of males and 244 of females, equal to a rate of 23.9 per thousand of the estimated population.

Deaths.—There were 310 deaths, namely, 152 of males and 158 of females, equal to a rate of 15.12 per thousand of the estimated population.

Infectious Diseases.—The following occurred during the year :—

| | | | | | |
|---------------|-----|-----------|------------|------|----------|
| Scarlet Fever | ... | 147 cases | Diphtheria | ... | 20 cases |
| Typhoid Fever | ... | 19 „ | Erysipelas | ... | 28 „ |
| Puerperal | ... | 1 case | Croup | ... | 1 case |
| | | Total | . | 216. | |

Dukinfield Municipal Borough.

Hospital.—Four cases of infectious diseases were sent to the Hospital—all scarlet fever ; none died. Arrangements are made with the Hyde Hospital Authorities for four beds, two for small pox and two for other infectious cases, but there has never been any difficulty in arranging for more cases to be admitted. The Hyde Fever Hospital is now completed, and it is said that it has beds quite sufficient to allow of the admission of all the infectious cases this Borough is likely to require to send to Hospital. All small pox cases are sent to hospital, and other infectious cases are also sent at the discretion of the Sanitary Authority. Disinfection of bedding, &c., is done at the Hyde Hospital.

Scarlet Fever.—147 cases were notified, with two deaths, compared with five deaths in 1908, five deaths in 1907, nine deaths in 1906, three in 1905, six in 1904, three in 1903, six in 1902, seven in 1901, five in 1900, and six in 1899.

The Medical Officer of Health makes the following remarks on this disease :—“Scarlet fever is for the most part an epidemic disease which reaches its maximum in October, and its minimum, as a rule, about March, but in certain manufacturing towns in the North of England it is endemic, and Dukinfield is one of these.

“Although there have been as many as 147 cases of scarlet fever in the town, it is a remarkable fact that only two deaths have occurred, showing that the attacks generally have been of a mild character. No deaths took place under one year, one was under five and not attending school, and one between five and fifteen years of age. It is difficult to know how to eradicate a disease the nature and cause of which is so little understood to-day. Some years ago the late Medical Officer of Health for Salford predicted that Isolation Hospitals would kill the disease after a very short period. In districts where these hospitals are used to a very large extent the disease still continues to thrive, and I am informed that it takes when the cases are congregated together, as in a Fever Hospital, a much more virulent and septic type. On the other hand, in cottage homes isolation and disinfection are not only difficult but impossible. The problem, therefore, is a hard one indeed, and as yet it remains unsolved. I do believe, however, that strict attention by frequent visitation on the part of the sanitary officials to the infected houses will do some little to prevent the spread of the disease. My belief is that the scarlet fever germ lives and thrives in this district and is readily conveyed by infection. The germs, which are found in the bran-like scales given off by the skin, readily attach themselves to

Dukinfield Municipal Borough.

clothing, and the infection can be retained for months, long after the final case existed. So that isolation is not sufficient unless combined with thorough and careful destruction of the germs of infection in order to prevent the spread of the disease."

In July, 1909, the Medical Officer of Health was empowered by the Council to carry out a method of treatment by inunction with Eucalyptus oil.

The treatment consisted of the rubbing well into the skin and hair of the infected person, oil of Eucalyptus, and of the treatment of the throat by means of an antiseptic application. In the first instance the children in the infected house were not compelled to stay at home from school, but latterly this has been enforced.

The total number of cases reported from July to December 31st, inclusive, were 64. July—16, August—10, September—6, October—15, November—7, December—10.

The total number of cases reported from January to June 30th, 1909, inclusive, were 82. January—16, February—17, March—14, April—9, May—8, June—18. $64 + 82 = 146$.

This compares with the number of scarlet fever cases notified during the past 12 years as follows:—

| 1898 | 1899 | 1900 | 1901 | 1902 | 1903 | 1904 | 1905 | 1906 | 1907 | 1908 | 1909 |
|-------------|------|------|------|------|------|------|------|------|------|------|------|
| 85 | 91 | 85 | 60 | 120 | 30 | 111 | 47 | 95 | 169 | 112 | 146 |
| Average 96. | | | | | | | | | | | |

Of these 146 cases, in eight instances there was more than one case of scarlet fever in one house. In four houses these duplicate cases occurred, and were notified at the same time. In four others, cases were traced to infection from previous cases in the same house, viz. :—

At 218, Cheetham Hill Road ; not used properly in first case.

At 16, Cheetham Hill Road ; bad drains ; being attended to ; plans submitted.

At 11, St. John Street ; family of five children and two took infection.

At 34, Taylor Street ; carelessness ; not carried out instructions.

Dukinfield Municipal Borough.

"The general opinion among the medical men of the district is that they cannot rely on the treatment—particularly the throat application—being carried out effectually. To do so a capable nurse should be employed. We are certainly—considering the large number of cases reported (82) prior to the treatment—better off than we were at the earlier part of the year. It is satisfactory to know that in so few houses, even considering the want of real supervision as regards the treatment, second cases occurred.

"I certainly advise a continuation of this method of treating scarlet fever for a further period of 12 months—if possible under supervision."

The County Medical Officer of Health shares the opinion of many other authorities that too much stress is laid on the skin as a source of infection, and that far greater attention is required in the antiseptic treatment of the throat and nose, and of all articles likely to have been contaminated by the discharges from the throat and nose.

Diphtheria and Croup.—Twenty-one cases were notified, with two deaths, compared with eight in 1908, none in 1907, one in 1906, one in 1905, none in 1904, one in 1903, six in 1902, and four in 1901.

During the past year the deaths from diphtheria have been low, viz.:—7 per cent. It is remarkable that during the past six years the deaths from this fatal disease have been so few, there being only 13 deaths out of 101 cases. The cases of mortality in previous years have been as high as 30 per cent. and upwards. This is attributed by the Medical Officer of Health to the fact that in most cases anti-diphtheritic serum is used very early on in the illness and with excellent results, as there is no reason to believe that the attacks themselves are less severe. The Sanitary Committee have decided to supply the serum in future free of charge in all cases.

The vitality of the micro-organisms of this disease is great, so much so that they can survive long periods of time, when attached to, or hidden away, in clothing.

This disease is not a filth disease and is not conveyed by water. It is undoubtedly connected with the prevalence of sore throats, and these throats seem to form a suitable resting place for the germs. The disease is not spread readily by the air for

Dukinfield Municipal Borough.

long distances, and it is in all probability conveyed by actual infection from clothing and persons in crowded rooms or schools.

Typhoid Fever.—Nineteen cases of typhoid fever were notified, with eight deaths, compared with one in 1908, one in 1907, six in 1906, seven in 1905, five in 1904, three in 1903, three in 1902, four in 1901, three in 1900, and seven in 1899.

This is a typical filth disease, and is conveyed by foul water, and milk, and even oysters. It is also said to be carried by flies, as in South Africa, and also in dust in India.

Improved sanitary conditions have lessened very considerably the death rate from typhoid fever, and the presence of typhoid fever in any district is always an indication of some insanitary condition, or faulty water supply.

Influenza.—There were two deaths from epidemic influenza, compared with seven in 1908, three in 1907, six in 1906, four in 1905, one in 1904, two in 1903, one in 1902, three in 1901, four in 1900, nine in 1899, two in 1898, and one in 1897.

Influenza can now be classed among our usual zymotic diseases, and every year we have a more or less severe epidemic.

This disease attacks persons of all ages and both sexes, sometimes to the extent of quarter or half of the population. The mortality from influenza is usually slight, except among persons already weakened by disease, or pre-disposed to bronchitis or pneumonia, the increased death rate during an epidemic of influenza being undoubtedly due to respiratory diseases. Very little is known as to how this disease is produced. It is undoubtedly highly infectious, and the pathogenic microbe, a short bacillus, has been identified. Notification, isolation and disinfection are impracticable in cases of influenza.

Smallpox.—No cases of smallpox were notified during the year, and only one mild case occurred in September, 1906.

Vaccination.—Return of births, successful vaccinations, insusceptible of vaccination, dead unvaccinated, postponements, removed from district, certificates of exemption, &c., from January 1st, 1909, to December 31st, 1909, in the Municipal Borough of Dukinfield

Dukinfield Municipal Borough.

| | |
|---|------|
| Number of births ... | 493. |
| Successful vaccinations ... | 205 |
| Insusceptible of vaccination ... | 3 |
| Dead unvaccinated ... | 42 |
| Postponements by Medical Certificates | 11 |
| Removed from district ... | 4 |
| Certificates of conscientious objection | 198 |
| Illegitimate births ... | 15 |
| Births unaccounted for ... | 30 |

Whooping-cough.—Whooping-cough accounts for one death, compared with eight in 1908, seven in 1907, one in 1906, one in 1905, four in 1904, twelve in 1903, three in 1902, ten in 1901, fourteen in 1900, and nineteen in 1897.

Measles and whooping-cough accounted for all the deaths under one year from infectious diseases in Dukinfield in 1905, and for 15 out of 18 in 1906.

Next to scarlet fever, whooping-cough is more fatal than any other disease in children, and in Dukinfield it is more fatal than scarlet fever. There is no doubt that in infants under one year it is the most fatal of all epidemic diseases. Concurrent epidemics of measles and whooping-cough are of frequent occurrence.

Measles.—Measles accounted for eight deaths, and in many respects the remarks made as regards whooping-cough apply equally to measles. Owing to its early infectiousness measles spreads largely by the attendance of children at schools and other places of public gathering, who are merely sickening of them, and have not so far manifested the characteristic symptoms. It is customary to close schools during measles epidemic, and in Dukinfield this has always been done with good results.

Diarrhœa.—Epidemic diarrhœa accounts for five deaths, compared with fifteen in 1908, seven in 1907, nine in 1906, seven in 1905, five in 1904, and seven in 1903. Four deaths were under one year and one between one and five years. The death-rate from diarrhœa was 0.3, compared with 0.92 in 1908.

Eleven deaths were certified as due to gastro-enteritis or some form of gastric catarrh.

Infantile Mortality.—There were 77 deaths of children under one year, the average for the previous ten years being 110.

Dukinfield Municipal Borough.

The mortality per thousand births registered was 157, compared with 214 in 1908, 221 in 1907, 176 in 1906, 196 in 1905, 198 in 1904, 188 in 1903, 182 in 1902, and 275 in 1901; the average for the previous ten years being 211.

Since 1901, when the infantile mortality in Dukinfield reached its high-water mark of 275, there has been a considerable decline, but this year we are just the average for the previous ten years. The average for the years 1897 to 1901 (inclusive) was 239.

This matter has always been well thought out by the sanitary committee. Special treatment in the way of feeding young children by means of sterilised modified milk has in past years been adopted in order to reduce the mortality. For each monthly meeting a special report is prepared as the result of inquiries relative to the deaths of infants under twelve months. It is difficult to explain the high infantile mortality in these manufacturing districts, and as yet no definite cause as the result of these statistics is known.

Cancer.—Cancer accounted for 17 deaths, compared with 17 in 1908, 10 in 1907, 5 in 1906, 15 in 1905, 10 in 1904, 16 in 1903, 11 in 1902, 10 in 1901, and 10 in 1900.

This disease, generally affecting people over 30 years of age, has caused an increased number of deaths of recent years, the explanation of which is not very satisfactory. Certain soils seem to favour production of disease, and some think that it is associated with a micro-organism.

Phthisis.—Pulmonary phthisis was responsible for 11 deaths, and 17 more were due to other forms of tuberculosis, compared with 25 in 1908, 33 in 1907, 25 in 1906, 11 in 1905, 18 in 1904, 25 in 1903, 19 in 1902, 24 in 1901, and 23 in 1899.

This is an undoubted infectious disease, and, owing to improved hygienic conditions, the death-rate has considerably decreased in recent years.

DEATH-RATE.

| | | | |
|------------------|-----|-----|------|
| 1851-1860 | .. | ... | 2.7 |
| 1861-1870 | .. | ... | 2.5 |
| 1871-1880 | ... | ... | 2.1 |
| 1881-1885 | ... | ... | 1.8 |
| 1885-1890 | ... | ... | 1.6 |
| Dukinfield, 1909 | ... | ... | 0.58 |

Dukinfield Municipal Borough.

Water Supply.—The domestic water in Dukinfield is excellent in quality, although it is felt that the town could do with rather more of it, as precautions have to be taken during dry weather. One new reservoir has been completed, and everything is being done by the Joint Waterworks Committee to give a larger supply. Powers have been obtained and contracts let by the Joint Waterworks Committee to construct an additional reservoir in the Chew Valley, which will hold about 200 million gallons.

The water, at present, comes from the wells, springs, and streams in the Swineshaw Valley, and is free from any risk or pollution.

Sewerage and Sewage Disposal.—The sewage of the district, so far as the sewers themselves are concerned, is very efficiently and extensively carried on, everything being constructed according to a sewage plan, having Bradley Hurst as the outlet. The sewage is conveyed by means of a high level and a low level sewer, and is treated by chemical precipitation with filtration, and passes through the land into the river. The plot of land at Bradley Hurst is 63 acres in extent. Over 12,000 tons of sludge are sent over per annum from the sewage. The sewers are ventilated at the manholes, and are regularly flushed, more especially in dry weather.

House drainage is also carefully attended to, and personal visits are paid to the houses to see as to proper trapping of drains and condition of slop-stone pipe.

The condition of the River Tame is, therefore, said to be now considerably better as regards pollution, owing to the time and money spent upon the purification of sewage by the various localities on its banks, as no sewage now enters the river from any of these districts.

Scavenging.—This department is divided into two groups or sections as follows :—(1) The nightsoil and spruce barrel department which work during the night from 11-0 to 6-0 o'clock ; and (2) the dry ashes and other refuse, and road and street scavenging during the day.

The disposal of privy, midden, and barrel refuse has been dealt with under middens and pail closets.

Dukinfield Municipal Borough.

The disposal of dry ashes is effected either by tipping in disused clay pits or at Bradley Hurst tip.

All trade refuse is disposed of at the Bradley Hurst tip. We are capable of dealing weekly with all the refuse created under this system.

Road and street scavenging is regularly and systematically carried out, generally, by means of manual labour, periodically, by means of a mechanical sweeping brush. During the last twelve months, on the report of a Sub-Committee, the work was set out in districts, with the result that it is now possible to completely scavenge the district weekly.

During the last year 95 barrels of water were put on the roads (equal to 21,850 gallons) to keep down the dust, cool the streets and at the same time disinfecting blocks were added to the water to keep down immediate putrefaction of horse droppings and other organic matter.

At present there are four systems of closets, viz. :—Ashpit privies, pails—automatic flush closets—fresh water closets.

There are 1,030 ashpit privies which are regularly attended to, the refuse from which is carted to Bradley Hurst tips. During the last year it was found necessary to build up the second manhole over the culvert to about 5ft. 6in. above the tip level owing to the rapid accumulation of refuse. A man is constantly engaged in levelling down the tip, and preventing, as far as possible, nuisances arising from it. These middens are gradually becoming less owing to conversion to water closets.

There are 584 pail closets. These are attended to weekly, and the refuse conveyed to Bradley Hurst tips ; a few have been converted during the last twelve months.

There are 1144 automatic flush closets which, on the whole, work satisfactory. These are inspected monthly.

Owing to the heavy fall of snow in December these automatic flush closets could not be inspected.

There are 443 fresh water closets in use at present, 47 of which have been added, due to conversions of privy middens this year.

Dukinfield Municipal Borough.

These conversions have entailed a considerable amount of new drainage, with inspection chambers, disconnecting traps, fresh air inlets, ventilating shafts, and scaled covers to manholes.

Slaughter-houses.—There are 13 of these slaughter-houses, including a new structure recently erected. On the whole they are very well kept.

Offensive Trades.—There is only one offensive trade in the district, viz:—The Gut Scraping Works of Mr. Geo. Hessner, in Yew Tree Lane. This place receives careful attention from the owner, not a single complaint having been received during the year.

Smoke Nuisances.—Periodical observations and reports are made as to the amount of smoke issuing from the chimneys of the various factories, &c. In one case, on being approached, the owners put in a new boiler, capable of working at 50lbs. pressure over that necessary for their mill, with the result that black smoke has ceased.

Dairies, Cowsheds, and Milkshops.—Regulations for the carrying out of the Dairies, Cowsheds, and Milkshops Order of 1885 were adopted in 1887. In 1904 further regulations were adopted on the basis of the model Bye-Laws of the Local Government Board.

In some cases there is not sufficient air space, and the lighting and ventilation of these buildings could be improved.

The Inspector has made 56 visits to these cowsheds, &c., and in every case the dairies and utensils were scrupulously clean.

Some of the cowsheds, however, are in good condition, and highly creditable so far as cleanliness and tidiness, and there is a general desire on the part of the local farmers, under the conditions, to comply with the requirements. As regards the milkshops every care will be taken in the future to see that all the requirements of the regulations recently come into force are carried out.

Nuisances.—No legal proceedings have been taken during the year, the usual notices of the Sanitary Inspector being, as a rule, promptly complied with. Many nuisances, however, have been removed.

Dukinfield Municipal Borough.

Overcrowding.—The cases of overcrowding are very few indeed, and are becoming less year by year. A complete list of four-roomed houses is kept where eight and upwards are living, and the Inspector has been very assiduous in tactfully altering matters where practicable. Judging from the reduced birth-rate in recent years, there is very little cause for anxiety on this score.

Canal Boats Acts.—The Inspector reports as follows :—"I have made seventy visits to the canal, have boarded and inspected twenty-eight boats, eighteen of these are owned locally, ten by outside representatives. These boats and their occupants as regards the matters dealt with in the Act, viz. :—Registration, notification of change of master, absence of certificate, overcrowding, separation of sexes, cleanliness, ventilation, removal of bilge water, notification of infectious diseases, refusal of admittance for inspection, have all been in accordance with the Acts."

Factories and Workshops Acts.—There are in the Borough—18 Factories, 42 Workshops and 21 Work places. These have been inspected on 101 occasions and 8 cases were found of defective ventilation.

HYDE

Municipal Borough.

Medical Officer of Health—DR. J. BENNETT.

Population at Census, 1901—32,766.

Population estimated to middle of 1909—34,669.

Area in Acres—3,072.

Birth-rate per 1,000 living—20.79.

Death-rate per 1,000 living—14.62.

Death-rate from seven principal Zymotic Diseases—0.83.

Deaths under one year per 1,000 births—147.

Population.—By the addition of the excess of births over deaths for the twelve months ending June 30th, 1909, to the estimated population on 30th June, 1908, the population of the Borough may be estimated as 34,669 on the former date. All the statistics in this report are based on this estimate of the population.

The area of the Borough is 3,072 acres, and the density of the population is 11.2 persons per acre.

Births.—The District Registrars report 721 births during the year, of which 356 were males and 365 females, equal to a birth-rate of 20.79 per 1,000. This is 3.20 per 1,000 lower than last year, and 3.85 lower than the average for the past ten years.

Illegitimate Births.—Twenty-three illegitimate births have been registered, 15 of which occurred in Hyde, five in Newton, and three in Godley.

Deaths.—During the year 490 deaths have been registered in the Borough. Thirty-five persons belonging to Hyde died in hospitals outside the district, whilst 18 persons belonging to other districts died in Hyde, so that the net deaths belonging to this district were 507, which is equivalent to a death-rate of 14.62 per 1,000. This is the lowest death-rate recorded, being .28 lower than last year, and 2.49 lower than the average for the previous ten years.

The greatest number of deaths was caused by heart diseases, bronchitis, wasting diseases, pneumonia, phthisis, and cancer, in the order named.

Hyde Municipal Borough.

Infant Mortality.—The number of deaths of children under 1 year of age was 106, giving an infant mortality rate of 147.02 per 1,000 births. Compared with 1908 the number of deaths is less by 34, and with the average of the previous ten years it is 50 less. The average rate of infant mortality for the ten years 1899-1908 is 188.6.

Table showing the infant mortality rate since 1899:—

| Year | Death-rate | Year | Death-rate |
|----------|------------|----------|------------|
| 1899 ... | 256.2 | 1905 ... | 191.1 |
| 1900 ... | 190.0 | 1906 ... | 153.6 |
| 1901 ... | 198.7 | 1907 ... | 169.7 |
| 1902 ... | 186.4 | 1908 ... | 169.3 |
| 1903 ... | 173.1 | 1909 ... | 147.02 |
| 1904 ... | 198.2 | | |

The deaths of infants have been due to the following causes:—

| | | | |
|----------------------|--------|---------------------|--------|
| Measles ... | ... 6 | Marasmus ... | ... 40 |
| Diarrhœa ... | ... 4 | Convulsions ... | ... 8 |
| Pneumonia ... | ... 15 | Enteritis ... | ... 5 |
| Bronchitis ... | ... 7 | Premature Birth ... | ... 12 |
| Tuberculous Diseases | 3 | Other Causes ... | ... 6 |

The Ladies' Health Society has been at work during the year. Each lady has a district assigned to her, in which she visits every house where a baby is known to be born, and gives friendly advice on the care, feeding, and management of infants.

The Notification of Births Act has not been adopted by the Council.

Zymotic Diseases.—The seven principal zymotic diseases caused 29 deaths during the year, viz.:—measles, 12; diarrhœa, 7; enteric fever, 5; scarlet fever, 2; diphtheria, 2; and whooping-cough, 1. This is equal to a death-rate of .83 per 1,000 of the population, compared with 1.13 in 1908 and 1.49 in 1907.

Small-pox.—No case of small-pox occurred during the year.

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Diarrhœa.—The number of deaths from diarrhœa was seven, giving a death-rate of .20 per 1,000 of the population. Seven of these deaths occurred in children under one year old. Compared with 1908 there is a decrease of 7 in the number of deaths from this cause.

Measles.—Twelve deaths were registered from measles, giving a death-rate from this cause of .34 per 1,000, compared with a death-rate of .14 per 1,000 in 1908. Ten deaths occurred in Hyde and two in Newton.

Whooping-cough.—One death was registered from this disease, equal to a death-rate of .03 per 1,000, compared with three deaths in 1908 and eleven in 1907.

Infectious Diseases (Notification) Act.—This Act came into force in the Borough on 1st March, 1890. The following table shows the number of notifications of each disease received during the year under the provisions of the above Act:—

| | | | |
|---------------------------------|-----|-----|-----|
| Scarlet Fever | ... | ... | 141 |
| Enteric Fever | ... | ... | 11 |
| Diphtheria and Membranous Croup | ... | ... | 12 |
| Erysipelas | ... | ... | 41 |
| Puerperal Fever | ... | ... | 2 |
| Phthisis | ... | ... | 8 |
| Total | | | 215 |

Method of dealing with Infectious Cases.—On receipt of a notification the house is immediately visited by the Sanitary Inspector. Inquiries are made as to the origin of infection, the sanitary condition of the premises, and the means available for isolation at home. When isolation at home is impossible or undesirable, the case is removed to Hospital, and the house and contents are immediately disinfected. When isolation is carried out at home, the house is disinfected as soon as the medical attendant certifies that the patient is free from infection. School children from infected houses are not allowed to attend school until after the lapse of the incubation period, when removal to Hospital has taken place, or until after the recovery of the patient when isolation has been carried out at home.

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The Librarian of the Free Library is notified daily of all infected houses. A very complete form of inquiry into all notified cases is in use, so that no detail escapes notice.

Scarlet Fever.—Two deaths of persons belonging to the Borough were registered from this cause. The disease was most prevalent during the months of August, September and November, nearly half the total cases being notified during these months. Of the 141 cases reported, 113, or 80.1 per cent. were removed to Hospital. The death-rate from this cause was .06 per 1,000.

Enteric Fever.—Five deaths resulted from enteric fever during the year, giving a death-rate from this cause of .14 per 1,000. No cases were traced to contaminated water or milk supply. Of the eleven cases reported, four were removed to Hospital. Pails with air-tight covers for the reception and removal of typhoid are supplied to houses which are not on the water carriage system. Disinfectants are supplied to every case free of charge.

Diphtheria and Membranous Croup.—Two deaths were recorded from this cause during the year, giving a death-rate of .06 per 1,000 of the population. Of the twelve cases reported seven were removed to Hospital. Antitoxin is supplied free of cost by the Corporation for use in the Borough.

Phthisis and other Tuberculous Diseases.—During the year there were forty-one deaths from phthisis, and fourteen from other kinds of tuberculous diseases. The phthisis death-rate is equal to 1.18, and that from other forms of tuberculous diseases is .40 per 1,000. Only eight cases of phthisis have been voluntarily notified. In each case the house has been visited, and a copy of the leaflet printed below given to the occupier.

INSTRUCTIONS TO PERSONS SUFFERING FROM CONSUMPTION.

Consumption is an infectious disease which is communicated in the following way:—

The infection is contained in the spit, or expectoration, of a patient suffering from the disease. The expectoration is deposited on floors, walls, clothes, handkerchiefs, &c.,

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where it dries and gets mixed with dust, and is blown about in the air. This infected dust is inhaled by healthy persons, and produces consumption in their lungs.

The following precautions should therefore be taken by persons suffering from consumption, to prevent the infection of others.

They should not spit on the floor or walls of any living-room, workshop, railway carriage, or in any place where people assemble. At home they should spit in a piece of paper or rag, and immediately throw this into the fire. A cup containing water may be used, which should be frequently emptied into the drains outside the house, and before being used again the cup should be thoroughly cleansed with boiling water.

When away from home a pocket spittoon, with a tight fitting cover, should be used, or the expectoration deposited in pieces of tissue paper, rolled up and burned before the spit becomes dry.

All eating utensils should be thoroughly washed in boiling water before being used by another person.

Persons suffering from consumption should not kiss on the lips.

Rooms occupied by consumptive persons should be kept thoroughly clean, and as much fresh air and light admitted to them as possible.

Clothes soiled with expectoration should be washed and boiled.

As soon as it becomes known that a person is suffering from consumption, the rooms occupied by the patient should be thoroughly disinfected. This will be done free of cost, or, if the householder desires to do the work himself, directions will be given. When once the rooms have been thoroughly disinfected and cleaned, it is easy to keep them so by washing the floors frequently with soap and water, and dusting them every day with a wet duster, so as to prevent infectious dust being scattered about the room.

The walls of a room occupied by a consumptive patient should be rubbed down with dough every three months.

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A consumptive patient and his clothes should be kept scrupulously clean.

The commonest conditions which render persons liable to contract consumption are overcrowding, damp rooms, want of fresh air and ventilation, and want of light, therefore all these conditions should be avoided as far as possible.

A consumptive person leaving a house should notify the fact to the Medical Officer of Health, so that it may be disinfected before being occupied by another tenant.

J. BENNETT,
Medical Officer of Health.

Acute Respiratory Diseases.—Ninety-eight deaths were attributable to acute diseases of the lungs, viz.:—56 to bronchitis, 40 to pneumonia, and 2 to pleurisy. In 1908 the deaths from these diseases numbered 93, and in 1907 there were 97. The death-rate from these causes is equal to 2.8 per 1,000. Twenty-one of these deaths took place in children under one year of age, and 27 were over 65 years of age.

Coroners' Inquests.—Thirty-three deaths formed the subject of investigation by the Coroner, making 6.5 per cent. of the total deaths for the year.

Isolation Hospital.—One hundred and twenty-four cases of infectious diseases belonging to the Borough have been treated in the Hyde Isolation Hospital during the year. One hundred and thirteen of these were scarlet fever, four enteric fever, and seven diphtheria.

Table showing the number of cases of each disease belonging to the Borough which were treated in the hospital, the number of deaths, and the percentage of mortality for each disease:—

| Disease. | No. of Cases. | No. of Deaths. | Mortality per cent. 1909 | Mortality per cent. 1908 |
|-------------------|---------------|----------------|-----------------------------|-----------------------------|
| Scarlet Fever ... | 113 | 2 | 1.77 | 5.4 |
| Enteric Fever ... | 4 | 1 | 25.0 | 16.6 |
| Diphtheria ... | 7 | 1 | 14.28 | 25.0 |

Table showing the total number of cases of each disease treated at the hospital, the number of deaths, and the percentage of mortality for each disease compared with the five previous years:—

Hyde Municipal Borough.

| Disease. | No. of Cases. | No. of Deaths. | Mortality per cent. 1909 | Mortality per cent. 1908 | Mortality per cent. 1907 | Mortality per cent. 1906 | Mortality per cent. 1905 | Mortality per cent. 1904 |
|--------------------|------------------|-------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Scarlet Fever ... | 234 | 10 | 4.2 | 5.9 | 3.4 | 2.5 | 3.8 | 0 |
| Enteric Fever ... | 23 | 9 | 39.1 | 31.8 | 33.3 | 22.2 | 45.4 | 0 |
| Diphtheria ... | 19 | 3 | 15.7 | 11.1 | 0 | 0 | 0 | 0 |
| Puerperal Fever... | 0 | 0 | 0 | 100 | 0 | 0 | 0 | 0 |
| Smallpox ... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.3 |

CASES RECEIVED IN HOSPITAL FROM OUTSIDE DISTRICTS:—

| District. | Scarlet Fever. | Enteric Fever. | Diphtheria. |
|--------------------------|-------------------|-------------------|-------------|
| Gorton ... | 59 | 10 | 6 |
| Droylsden ... | 17 | 3 | 2 |
| Dukinfield ... | 2 | 2 | 0 |
| Whaley Bridge ... | 11 | 0 | 0 |
| Denton ... | 7 | 3 | 0 |
| Romiley and Bredbury ... | 3 | 0 | 0 |
| Audenshaw ... | 1 | 1 | 0 |
| Compstall ... | 1 | 0 | 0 |
| Hazel Grove ... | 3 | 0 | 2 |
| Marple ... | 9 | 0 | 1 |
| Levenshulme ... | 4 | 0 | 1 |
| Disley ... | 4 | 0 | 0 |

Eight cases of enteric fever, eight of scarlet fever, and two of diphtheria, from outside districts, died in the hospital during the year.

Offensive Trades.—There is only one offensive trade carried on in the Borough, viz., tripe boiler. Seven establishments carry on this trade. They have been regularly inspected during the year, and have been found clean and kept according to the Bye-laws. No complaints have been received during the year as to nuisances arising from any of them.

Dairies, Cowsheds and Milkshops.—The Dairies, Cowsheds and Milkshops Order came into force on 2nd October, 1899. There are 51 persons registered as cowkeepers and 21 registered milkshops in the Borough.

Slaughter-houses.—There are 25 registered slaughter-houses, all of which have been regularly visited and inspected whilst slaughtering was proceeding.

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Common Lodging-houses.—There are three common lodging-houses, which provide accommodation for 85 lodgers. The structural arrangements of these houses are imperfect, they are difficult to keep clean, and are badly ventilated.

Unsound Meat.—No unsound meat was discovered exposed for sale during the year. The amount of tuberculous meat voluntarily surrendered and destroyed during the year was six carcasses, weighing 30cwt. 2qrs. 3lbs. The shops and stalls on the market are visited weekly by the Inspector. There is no Inspector with a special certificate for meat inspection.

Industries.—The chief industries are cotton manufacturing, engineering, boiler making, calico printing, hat manufacturing, margarine making, indiarubber works, leather dressing and printing.

Adoptive Acts.—In addition to the Infectious Diseases (Notification) Act before mentioned, the Public Health Acts Amendment Act and Private Street Works Act, 1892, are in force in the Borough.

Housing of the Working Classes Acts—Insanitary Property.—The following list of insanitary property, all of which has been mentioned in one or more previous reports, requires dealing with :—

Nos. 26 and 28, Catherine Street, and Nos. 1 and 2, Washington Court. Four back-to-back houses.

Nos. 3 and 5, Mary Street. Two single houses without through ventilation.

Two cellar dwellings in Acorn Lane, Gee Cross.

No. 6, Queen Street, and 1, Unsworth Court. Two back-to-back houses.

Nos. 151 and 153, Back Lane, and two houses behind. Four back-to-back houses.

Nos. 59 and 61, Old Road, and two houses in Firth Court. Four back-to-back houses.

No. 57, Commercial Brow, and house behind in Water Street. Two back-to-back houses.

No. 25, Cheapside, and house behind. Two back-to-back houses.

No. 57, Hyde Lane, and house behind. Two back-to-back houses.

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Nos. 1 and 2, Dakin Court. Single houses, without through ventilation.

No. 5, Norfolk Street, and house behind in Rayner Court. Two back-to-back houses.

Nos. 1, 2, 3 and 4, Chapel Square, Muslin Street. Four single houses without through ventilation.

Nos. 6 and 8, Walker Lane, and two houses behind. Four back-to-back houses.

No. 32, Ridling Lane, and house behind in Smith's Court. Two back-to-back houses.

Nos. 52 and 54, Grafton Street, and 1, and 2, North Court. Four back-to-back houses.

Privy Midden Conversion.—During the year a number of insanitary privy middens have been converted to Water-closets, and additional Water-closets have been provided to certain property where the number in existence was insufficient.

There are 7,124 closets on the Water Carriage System, 190 privies, and 96 pail closets in the Borough. There are no earth closets.

Refuse Removal.—This work is carried out by a staff of men under the supervision of Mr. J. Shawcroft, the Chief Sanitary Inspector, with horses and carts belonging to the Corporation. The dry refuse is taken to tips; that which is wet or offensive is taken to the destructor.

The Inspector reports that 5,938 ashpits have been emptied, also 38,503 ashbins; 9,492 loads of refuse have been taken to the destructor and tips during the year.

This work is carried out by the Corporation. The frequency of scavenging is as follows :—

Midden Privies. As often as necessary.

Dry Ashpits. As often as necessary.

Pail Closets. Weekly.

Dust Bins. Weekly.

Cesspools. As frequently as required.

Dairies, Cowsheds, and Milkshops.—The Dairies, Cowsheds and Milkshops Order is in force in the Borough. There

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are 51 cowsheds and 17 milkshops, which have been inspected 66 times during 1909. Three notices for defects have been served. No legal proceedings have been taken.

Dwellings.—Seventy-four new houses have been built during 1909. No action has been taken under the Housing of the Working Classes Acts, or in respect of overcrowding.

Bye-laws.—Bye-laws are in force relating to new streets and buildings, common lodging-houses, slaughter-houses, cleansing of footways and pavements, offensive trades, nuisances. No new Bye-laws were adopted during 1909.

Water-supply.—The water-supply is derived from the Manchester Corporation Woodhead Supply. The higher parts of Gee Cross and Newton do not derive their supply from this source. Additional works are now in progress to supply these portions of the Borough with Woodhead water. There have been no complaints as to the action of lead, and no samples have been analysed during 1909.

Sewerage.—New sewers have been constructed in Joel Lane, from Slate Acre to Werneth Low Road, and in Higham Lane, from Nether Street to Church Avenue.

Sewage Disposal.—The sewage is treated on the bacteriological system with the Candy-Whittaker Automatic Filter.

There have been no complaints as to the outfall works, and no special action has been taken during 1909.

Factory and Workshops Acts.—There are 220 workshops on the register, chiefly bakehouses and boot and clog makers. 257 inspections have been made and 17 notices served for want of cleanliness, want of closet accommodation and the like. There are over 200 out workers known, chiefly wearing apparel makers and 121 inspections have been made of their premises.

MACCLESFIELD

Municipal Borough.

Medical Officer of Health : DR. J. H. MARSH.

Population at Census, 1901—34,624,

Population estimated to middle of 1909—34,624.

Area in acres—3,214.

Birth-rate per 1,000 living—20.8.

Death-rate per 1,000 living—15.7.

Death-rate from seven principal Zymotic Diseases—0.4.

Deaths under one year per 1,000 births—110.

General Features.—The soil is variable to the west and north-west, sand and gravel lying on boulder clay alternate, the sand predominating. In the centre of the town there are two to five feet of coarse gravel on clay. On the easterly side there is brick clay on sand and gravel ; and to the south, boulder clay.

The natural drainage of the town runs roughly east and west, and is effected by the River Bollin which has as tributaries the Daybrook, draining the easterly or Hurdsfield side, and the Dams brook, draining the westerly side or Broken Cross area.

The elevation of the town is between 400 and 500 feet above sea level. The rain gauge in the West Park is 501 feet above sea level and the Market Place about 500 feet.

Population.—The population at the last census in 1901 was given as 34,624, made up of the then three registration areas, viz. :—

| | | | |
|-----------------------------|-----|-----|--------|
| West Macclesfield | ... | ... | 17,297 |
| East Macclesfield | ... | ... | 12,440 |
| Sutton | ... | ... | 4,887 |
| Total population of Borough | | | 34,624 |

In 1904 it was estimated that this figure had fallen to 34,380, and it is feared that the decline has still continued, and that the next census will show that it is below 34,000.

The population contains an excess of females above that which prevails in the country generally. In 1901, the census gave 15,377 males and 19,246 females ; a deficit of over 3,000 males

Macclesfield Municipal Borough.

Births.—There were 722 births registered, giving a birth-rate per thousand living as 20.8. This is the lowest figure on record since 1874.

The upper and middle classes have been responsible for the greater proportion of this decrease, the causes for which are complex and various.

Illegitimate Birth-rate.—Fifty-two births were registered as illegitimate, 25 boys and 27 girls.

This gives an illegitimate birth-rate of 1.5 per 1,000 of population, or 7.2 per cent. of all children born during the year.

The rate for the country generally is 4.5 per cent. of births.

Two of the illegitimate births were of strangers to the town, and occurred in the Workhouse.

Still, this rate must be considered excessive.

District Birth-rate.—

| District. | | Population. | | Birth-rate 1909. | | Birth-rate 1908. | |
|-------------------|-----|-------------|-----|---------------------|-----|---------------------|--|
| West Macclesfield | ... | 16,500 | ... | 21.0 | ... | 20.8 | |
| East | „ | 12,440 | ... | 22.6 | ... | 22.6 | |
| Sutton | ... | 4,887 | ... | 19.0 | ... | 22.7 | |

The decline in this year's birth-rate as compared with last year has therefore taken place in the Sutton area, the other districts remaining about stationary.

Deaths.—There were 668 deaths registered in the Borough in 1909. This number includes the deaths of 124 persons not belonging to the Town, who have died in one or other of our Public Institutions, viz. :—81 in the Asylum, 26 in the Workhouse, 14 in the Infirmary, and 3 in the Isolation Hospital: deducting these it leaves a total number of deaths of inhabitants of the Borough of 544, which corresponds to a death-rate of 15.7 per 1,000 of population.

This death-rate is too high for a small country town, but it is partly accounted for by the large number of deaths of old people. Many young persons leave the town, especially the men, in search of employment, and this increases the proportion of old people whose mortality-rate is necessarily high.

Macclesfield Municipal Borough.

The death-rate from consumption is abnormally high, and Dr. Marsh advises that the Council should take some of the poorest and worst situated cases into the Small-pox Hospital, firstly, for their own improvement, and secondly, that they might be educated for a few months in the value of fresh air, the careful disposal of their sputum, and the correct kind of food and exercise to take.

Such a line of procedure, although it might cost a few pounds a year, would be infinitely more humanitarian and a much better business policy than doing nothing but allowing the sufferers to spread infection broadcast, and drift on to the poor rate.

During the early part of the year there were numerous deaths from lung complaints probably due in some measure to an epidemic of influenza which prevailed at that time, nine deaths being directly attributed to influenza and 55 to bronchitis and pneumonia during the first half of the year as against one death from influenza and 28 from bronchitis and pneumonia during the second part of the year.

Deaths in Public Institutions.—233 persons died in the four Public Institutions during the year as against 183 last year.

The deaths were distributed as follows :—

| | | | Year 1909 |
|--------------------|-------|-----|-----------|
| Asylum | ... | ... | 91 |
| Workhouse | ... | ... | 82 |
| Infirmery | ... | ... | 53 |
| Isolation Hospital | ... | ... | 7 |
| | | | <hr/> |
| | Total | ... | 233 |
| | | | <hr/> |

Of this total of 233, 99 were inhabitants of the Borough, viz. :—4 in Isolation Hospital, 56 Workhouse, 29 Infirmery, and 20 Asylum.

THE PRINCIPAL CAUSES OF DEATH WERE :—

Heart disease..... 26, of which 13 occurred in
Workhouse and 10 in Asylum.
Senile decay 16, occurred in Workhouse.
Bright's disease..... 33, of which 31 occurred in
Asylum.

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Pulmonary tuberculoiss 14, of which 5 occurred in Asylum, and 8 in the Workhouse.

Insanity (principally G.P. of the insane)... 15, all in the Asylum.

Infantile Mortality.—No. of deaths of children under one year of age, 80; death-rate per 1,000 born, 110. Last year the rate for the Borough was 127 per 1,000 born.

THE AGES IN MONTHS AT WHICH THE DEATHS HAVE OCCURRED,
WERE AS UNDER :—

| Under one month. | One to three months. | Three to six months. | Six to nine months. | Nine to twelve months. | Total |
|------------------|----------------------|----------------------|---------------------|------------------------|-------|
| 27 | 19 | 18 | 8 | 8 | 80 |

THE PRINCIPAL CAUSES TO WHICH THE DEATHS HAVE BEEN
ASSIGNED, WERE AS UNDER :—

| | | | |
|-------------------|-----|-----|----|
| Premature birth | ... | ... | 18 |
| Convulsions... | ... | ... | 9 |
| Debility, Atrophy | .. | ... | 9 |
| Bronchitis | .. | ... | 3 |
| Syphilis | ... | ... | 5 |
| Measles | ... | ... | 0 |
| Pneumonia | ... | ... | 9 |

Notification of Births Act.—This Act came into force on April, 1909.

During the year now under review the following notifications have been received.

| | | |
|---------------------------------|-----|-----|
| Total number of births notified | ... | 695 |
| Notified by Midwives | ... | 458 |
| „ Parents | ... | 192 |
| „ Doctors | ... | 24 |
| „ Workhouse Master | ... | 16 |
| Unsigned notifications | ... | 5 |

Five births were notified by both doctor and midwife.

Macclesfield Municipal Borough.

It will thus be seen that the requirements of the Act have been fairly well complied with, and it is to be hoped that it will not be necessary to take proceedings to compel the few who still neglect notifying to carry out their statutory duty.

The health visitors follow up all the cases which appear to need supervision, and unfortunately the mere fact of residing in a good class house is not always a guarantee that the mother is possessed of the wisdom and knowledge necessary to the successful bringing up of an infant.

The steady decline in the death-rate amongst infants which has characterised the last few years is very satisfactory, and to the efforts of the health visitors a large amount of credit is due. It must not be forgotten that there has been a series of summers exceptionally cool and moist with no prolonged spells of dry hot weather, when the conditions peculiarly favour the onset of summer diarrhoea, and until the work of these various health missionaries has been tried as by fire, Dr. Marsh is not disposed to place all the credit for the diminution in the infantile mortality at their door.

The figures prepared by the health visitors do not enable any details of the number of breast fed and bottle fed children to be given. The Notification of Births Act has been fairly well carried out, though in some cases unnecessary delay has occurred in forwarding the notification. In most cases the mothers are pleased to receive advice from the health visitors relating to the health of the child. The points on which special emphasis is laid are feeding, clothing and cleanliness, regular habits, the best way to maintain the supply of breast milk and the cleanliness and ventilation of the home.

In many cases the extreme poverty and destitution of the mothers have prevented them feeding their children suitably; several cases have been reported in which the mother was so ill-fitted as to be quite unable to suckle her infant. In such cases efforts are made to provide milk and to put the mother in the way of obtaining more food, but the difficulties in some of the cases seem almost unsurmountable. In some cases the intervention of the N.S.P.C.C. has been sought and much more might be done in this way if it was realised the Society's work is as largely preventive as punitive, and that kindly warning and caution with judicious oversight may prevent a vast amount of passive cruelty and ignorant wrong doing. Some provision should be made for

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prospective and nursing mothers to have cheap meals, especially where such women have to go out to work. Penny or two-penny dinners for nursing mothers ought to be provided.

Some two or three years ago, the then health visitor (Miss Brett) was in the habit of cooking a simple meal at mid-day in the houses of the poorer mothers with such appliances as they possessed, simple recipes were distributed and the mothers encouraged to prepare similar meals for themselves.

This was quite a step in the right direction. The women must be taught in their own homes, with such cooking utensils, fire places, &c., as they possess and not in palatial kitchens, with up-to-date gas ovens, ranges and cooking appliances which they never see again outside the cooking class.

Dr. Marsh is becoming more convinced every year that in the proper feeding of the mothers lies to a large extent the solution of the infantile mortality problem, and that to urge breast feeding on a half fed or badly fed woman is a cruel mockery, and that the need for such feeding is increased tenfold when the woman goes out to work.

Tuberculosis.—

Number of deaths in the Borough from all forms of tuberculosis 69

Number of deaths in the Borough from phthisis ... 42

Death-rate per 1,000 of population from phthisis ... 1.2

Other forms of tuberculosis which have ended fatally have been :—

Tabes Mesenterica (or tuberculosis of the bowels) ... 9

Tuberculous Meningitis (or tuberculosis of the brain) ... 7

General tuberculosis (of glands, bone, skin, &c.) ... 11

Of the 42 deaths from phthisis 13 were men and 29 women.

The average age at death of the men was 40 years, and of the women 37 years.

Of the 29 women who died from consumption no less than 15 were housewives.

The tragedy of this last fact needs no words to emphasize.

Macclesfield Municipal Borough.

Year after year Dr. Marsh continues to call the attention of the Sanitary Authority to the great loss of life sustained by the town from this preventable disease, and little is done, the objection seeming always to be the same that preventive measures cost money.

He proceeds:—"The time has fully arrived when it is the duty of the authority having responsible charge of the health of this Borough to take more active measures in order to check the spread of phthisis in this town. We ought as a first step to separate such cases as are spreading infection broadcast in crowded dwellings of poor people. I again advise that such cases should be removed to our small-pox hospital for a period during which they could be educated in the methods of preventing the spread of infection and at the same time receive beneficial treatment on their own account.

"I trust the Sanitary Authority will see that the opprobrium of doing little or nothing is removed.

"During the year the Health Committee on the recommendation of the Medical Officer of Health, had the town placarded with a series of illustrated bills setting out the means by which consumption is spread and the sources from whence a cure should be sought.

"These bills were copies of those issued by the Health Department of New York, and were modified for local use by the publishers of the Journal "The Medical Officer."

"The streets, mills, schools, &c., were placarded with the illustrations, and from personal observation and also from the information imparted to me by others, I believe much valuable educational work has been done thereby.

"I only wish the illustrations were three or four times as large again, and in colours, the more lurid the better, as it is in this way necessary to create a mental impression on the sensorium of those most needing education in these matters.

"Mere leaflets, and handbills on the care of the sputum and the methods of preventing the spread of infection are of little use. The gospel of health must be preached hot and strong if it is to be assimilated."

Macclesfield Municipal Borough.

The new regulations of the poor law requiring medical officers to notify cases of pulmonary tuberculosis have been carried out throughout the year with the following results:—

Thirty-two notifications relating to 25 persons have been received, viz.: On form A, 19 notifications; on form B, 8; and on form C, 5.

In each instance the address given was visited, full particulars obtained, and instructions given as to the precautions to be taken to prevent the spread of the disease.

In three cases the person was admitted to the workhouse from outside the borough, three had not stayed at the address they gave, and their relatives said they were such as to make it impossible to trace their "home" prior to entering the workhouse. Two had slept at various common lodging-houses, and one, notified from the workhouse of another town, was said to have stayed at the workhouse when passing through Macclesfield.

In seven cases the house and bedding were disinfected after the patients' removal to the workhouse, three on receipt of the notification, and three after the death of the patient. In one of the latter houses a death from consumption occurred five years ago and disinfection was offered and advised but refused by the person who has now died of the disease.

Eight of the patients notified have died, five in the workhouse and three outside.

In August, 1902, the Medical Officer of Health presented a report to the Health Committee on the action which the Committee might take to prevent the spread of tuberculous disease within the borough, and amongst other things recommended that the Council should apply to the Local Government Board for permission to include phthisis in the list of diseases notifiable under the provisions of the Infectious Disease (Notification) Act, 1899. The Town Council did make such application to the Local Government Board but permission was refused.

In September, 1902, voluntary notifications of pulmonary tuberculosis were invited, a fee of 2s. 6d. to be paid for each first notification, excepting in the case of Medical Officers of Public Institutions who were to be paid 1/- a case.

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The following table shows how perfunctory such voluntary notification becomes :—

| Year. | | | | No. of Notifications. |
|-------|-----|-----|-----|-----------------------|
| 1903 | ... | ... | ... | 99 |
| 1904 | ... | .. | ... | 48 |
| 1905 | ... | ... | ... | 59 |
| 1906 | ... | ... | ... | 23 |
| 1907 | ... | ... | ... | 16 |
| 1908 | ... | ... | ... | 6 |
| 1909 | ... | ... | ... | 11 |

An examination of these figures will show how little is being done to grapple with this serious disease.

Compulsory notification is a primary necessity, and then adequate hospital accommodation for suitable cases.

The Corporation defrays the cost of the examination of specimens of sputum suspected to contain the germs of consumption.

During the year 21 such specimens were sent to the Lister Institute, London, for examination.

In four of these cases the tubercle bacillus was found.

Milk and Tuberculosis.—There is a considerable amount of tuberculous milk still sold, and it is directly responsible for the spread of tuberculous disease in one or other of its forms in human beings, especially in children. It is proposed to take samples and report the results of such examinations.

It is unfortunate that a month at least has to elapse between the taking of a sample and the reception of the report thereon, but this is inevitable when reliance has to be placed on experimental inoculation of the centrifugalised milk deposit.

A good deal of the tuberculosis so prevalent in dairy cattle is due to the unnatural conditions under which milking cows are kept. The shippens ill-ventilated and hot, and the cows forced into being mere milking machines by artificial foods, grains, &c. Is it any wonder that tubercle readily grows in animals thus treated.

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Administrative Measures against Tuberculosis.—In February, 1909, the Medical Officer to the Local Government Board (Dr. Newsholme) issued a memorandum on the Administrative Measures against Tuberculosis, in which it was proposed to supplement from a Medical standpoint the information contained in the circular letter issued by the Local Government Board, which was sent with the Public Health (Tuberculosis) 1908 Regulations to all Sanitary Authorities and Boards of Guardians.

The scope of the memorandum was not limited to poor persons in receipt of relief. Tuberculosis was described as largely a disease of *misery* and much more of *ignorance*. The need for educating various social groups, such as trades unions, friendly societies, as well as the army and navy, in the precise knowledge of the conditions under which tuberculosis is transmitted was explained. The value of the early recognition of the disease was pointed out, and the need for bacteriological examination of the sputum, the medical inspection of school children, the systematic treatment of "persistent colds," repeated attacks of "bronchitis," and the like, all of which may indicate an early stage of pulmonary tuberculosis.

The medical practitioner's position in relation to preventive measures was defined, the administrative control discussed and the procedure necessary in official investigations defined.

Zymotic Diseases.—The total number of deaths from these diseases during 1909 was 16, against 36 in 1908.

The zymotic death-rate per 1,000 of population was 0.4.

The following table shows the deaths attributed to those diseases during the year :—

| Diseases. | | | 1909. |
|-------------------|-----|-----|-------|
| Measles ... | ... | ... | 4 |
| Scarlet fever ... | ... | ... | 1 |
| Diphtheria ... | ... | ... | 3 |
| Typhoid fever ... | ... | ... | 3 |
| Diarrhoea... | ... | ... | 5 |
| | | | — |
| | | | 16 |

Although broadly speaking the zymotic death-rate is higher in insanitary towns and areas and lower in places under good

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hygienic conditions, it is by no means a perfect index of sanitary conditions, since it includes diseases which are propagated under very varying conditions, and are not equally amenable to sanitary improvements. A high death-rate from enteric fever, diphtheria or diarrhœa, may be taken to imply defective sanitation. The death-rate due to such a mixed group of diseases as are associated together for the zymotic death-rate means simply the presence or absence of grave epidemics, and denotes nothing as to the health conditions of the community in other respects.

Diarrhœa.—The number of deaths from diarrhœa was 5, and the number of deaths from enteritis, gastro-enteritis, &c., was 4.

The decline in the number of deaths ascribed to this cause during the last two years is remarkable.

If it is remembered that deficiency of rainfall over long periods associated with high atmospheric temperature are probably the two chief external conditions favourable to epidemic diarrhœa, part of the cause is explained for the low mortality during the last three years. The summers have been cool and moist with no prolonged period of dry warm still air.

Measles.—The number of deaths was four, and last year was 19.

All the four deaths occurred in East Macclesfield, three were under five years of age, and one was between the age of five and fifteen years.

The number of cases notified by teachers was 158, the death-rate per cent. notified being 2.5.

The disease prevailed throughout the year, 80 cases were notified in the first half, and 76 in the second half of the year.

Whooping-cough.—No deaths were attributed to whooping-cough during the year.

24 cases were notified by the school teachers, 13 were in Daybrook Street School, and 7 in Higher Hurdsfield.

The incidence of the disease fell almost entirely on the Hurdsfield area of the town, and occurred principally during the months of June, July, and August.

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It is suggested that when next the town is threatened with a severe epidemic, some of the worst cases from the over-crowded houses of the very poor should be taken into the Isolation Hospital. Many young lives could thus be saved and the death-rate much reduced. This plan has successfully been carried out in Manchester, Edinburgh, and other towns, and in this an industrial centre where many of the mothers are compelled to go out to work, Dr. Marsh is of opinion that they might profitably undertake the duty of caring for the children at such a time when skilled nursing and attention make all the difference between recovery and serious disablement or death.

“We need not increase our staff for this purpose, and I would only advise that severe cases from poor houses where the children are badly cared for should be dealt with. I strongly recommend this matter to the sympathetic consideration of the Health and Hospital Committees.”

Cancer.—Number of deaths from cancer—44.

These deaths include cases of sarcoma as well as carcinoma.

35 were between 25 and 65 years of age.

9 were over 65 years of age.

The death-rate is 1.2 per 1,000 of inhabitants.

The Council offer disinfection of bedding, rooms, &c., after death from cancer, but it is doubtful whether it is of value.

There is an excessive number of aged people in the town, and cancer is eminently a disease of age and late middle-life.

School Closure.—The following departments of schools were closed under Article 57 of the Code for measles:—

Daybrook Street School (Infant Department) for three weeks from March 12th, this was extended till after the Easter Holidays.

Hurdsfield (Church Street) School (Infant Department) for a fortnight from April 26th.

Hurdsfield (Church Street Infants) closed for 14 days from May 10th.

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Lord Street School (Infants Department) closed for one week from June 2nd.

In all these cases the object of closure was primarily to save grant.

School closure is not a measure to be readily resorted to, as it lacks that precision of purpose and effect which is necessary if measles epidemics are to be brought under intelligent control.

Notification by School Teachers.—439 notifications were received by the Medical Officer of Health on the forms specially provided. They included the following diseases :—

| | | | |
|---------------------------|-----|-----|-----|
| Measles | ... | ... | 159 |
| Sore throat and mumps | ... | ... | 91 |
| Whooping cough | ... | ... | 24 |
| Sores on face and body | ... | ... | 22 |
| Chicken pox | ... | ... | 101 |
| Ringworm | ... | ... | 10 |
| Suspected scarlet fever | ... | ... | 21 |
| Diseases of the eye | ... | ... | 4 |
| Dirty and scabby heads... | ... | ... | 8 |

As the Medical Officer of Health and the School Medical Officer are combined, these notifications are of great value and enable both Health and Education Authorities to keep in touch with the progress of threatened epidemic disease, and allow measures to be devised in time to be of value in checking the onset of the disease.

Infectious Diseases.—The following were notified :—Scarlet fever, 173 ; diphtheria, 14 ; typhoid fever, 24 ; puerperal fever, 5 ; and erysipelas, 35 ; total, 251.

Scarlet Fever.—There were 2 deaths from this disease. 119 cases were removed to hospital.

The type of disease was on the whole mild, and the low rate of mortality, 1.2 per cent., bears witness to its benign character.

Scarlet fever is, however, a very variable disease, and in some persons assumes a virulence and malignancy which is quite

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surprising ; again, we know that the mild type of scarlet fever may persist for some years, to be suddenly replaced by a much more severe form.

Diphtheria.—

| | | | |
|--------------------------------|-----|-----|----|
| Number of cases notified | .. | ... | 14 |
| „ of deaths | ... | .. | 3 |
| „ of cases removed to hospital | ... | ... | 6 |

127 swabs from the throat were sent to the Lister Institute for examination for the presence of the typhoid bacillus.

In 27, the diphtheria bacillus was found. In 2 of these the Hoffman's Pseudo-Diphtheria Bacillus was also found.

In 8 cases the Pseudo-Diphtheria Bacillus was found alone.

Six cases were removed to hospital, one of which proved fatal.

Diphtheria antitoxin of 2,000 or 4,000 Behring Ehrlich unit per c.c. together with the loan of Serum Syringe, may be obtained, free of cost for four people, on application by a medical practitioner at any hour of the day or night, to the Medical Officer of Health, for curative or immunising purposes. This Serum is always on hand at the Health Office, Town Hall, the Isolation Hospital, or, in cases of emergency, at the residence of the Medical Officer of Health.

There is no possible excuse for practitioners not using this invaluable remedy at the earliest moment. Outfits for taking swabs from suspicious throats or noses can just as readily be obtained, but practitioners are strongly urged *not* to wait for a report by telegram of the swab before using antitoxin, but *at once* inject 4,000 units in all suspicious cases, then take a swab and notify provisionally to the Medical Officer of Health.

One negative swab is of little value. Only after two swabs, carefully taken can a negative bacteriological examination be considered of any weight. It is important in these cases to swab the nose.

Medical practitioners are strongly urged to use the swabs freely provided, in every case where there is the smallest reason to suspect the presence of diphththeria.

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Every sore throat should be considered to be infectious until it is proved not to be so.

Diphtheria may be so slight that the patient complains of but little.

The role of "carrier cases" is important. It is always to be remembered that persons may be the hosts of virulent diphtheria bacilli, yet themselves present few or no signs of the organism. Such cases amongst school children are fruitful sources of school epidemics of diphtheria, and in such cases, it is only by swabbing the throats of all the children present in a suspected school or class that the guilty individual may be detected.

Enteric Fever.—The cases notified numbered 24, of which 15 were removed to hospital; there were three deaths from the disease.

There is now no doubt that the germs of enteric fever can live in the gall bladder of a person who has recovered from an attack.

It is thus quite possible that the existence of enteric infected houses or places may be largely, if not entirely, due to the presence in them of the carrier rather than to the presence in dust or crevices of enteric bacilli, and consequently that in such houses a systematic examination of faeces and urine is of the first importance.

It seems that in about 25 per cent. of the cases the urine is capable of conveying the infection.

Puerperal Fever.—

| | | | | |
|--------------------------|-----|-----|-----|---|
| Number of cases notified | ... | ... | ... | 5 |
| „ deaths | ... | .. | .. | 3 |

All five cases occurred in West Macclesfield.

The three fatal cases all occurred in the practice of one midwife. She was inspected and found to have a small inflamed wound on a finger. She was required to cleanse herself and her appliances at the Isolation Hospital and to discontinue practice until her finger had healed.

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In all cases of puerperal fever notified, the midwife is required to attend at the Isolation Hospital with her appliances and bag. She is bathed and cleaned, and her instruments put through the disinfectant and sprayed with 2 per cent. formalin.

The other 2 non-fatal cases occurred in the practice of two other midwives.

THE ISOLATION HOSPITAL.

| | | | |
|-----------------------------------|---|---------------|---------|
| Number of patients in Hospital on | { | Scarlet fever | ... 4 |
| December 31st, 1909 | | Diphtheria | ... 2 |
| ... | | Enteric fever | ... 1 |
| Admitted during the year 1909 | { | Scarlet fever | ... 183 |
| ... | | Diphtheria | ... 11 |
| ... | | Enteric fever | ... 18 |
| ... | | Erysipelas | ... 4 |

Included in the above figures are 50 cases from the Macclesfield Rural District, viz.:—

| | | | |
|-------------------------------|-----|-----|-----------|
| Scarlet fever... | ... | ... | 42 cases. |
| Diphtheria | ... | ... | 5 „ |
| Typhoid fever | ... | ... | 3 „ |
| Died | ... | ... | 7 cases. |
| Death-rate per cent. admitted | ... | ... | 3.2 |

The following table shows the numbers admitted since 1899:

| Year | 1900 | 1901 | 1902 | 1903 | 1904 | 1905 | 1906 | 1907 | 1908 | 1909 |
|-------------------|------|------|------|------|------|------|------|------|------|------|
| Scarlet fever ... | 19 | 16 | 96 | 103 | 29 | 76 | 270 | 48 | 40 | 183 |
| Diphtheria ... | 4 | 7 | 5 | 8 | 3 | 3 | 4 | 26 | 15 | 11 |
| Enteric fever... | 14 | 11 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 18 |
| Small-pox ... | 0 | 0 | 1 | 22 | 52 | 6 | 0 | 0 | 0 | 0 |
| Erysipelas ... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |

| | | |
|-----------------------------------|-----|------|
| Totals for 10 years—Scarlet fever | ... | 872 |
| Diphtheria | ... | 86 |
| Enteric fever | ... | 51 |
| Small-pox... | ... | 81 |
| Erysipelas | ... | 4 |
| Total ... | ... | 1094 |

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COST OF FOOD AND NURSING.

| | 1909 | | | | 1908 | | | | 1907 | | |
|--------------------|------|----|----|-----|------|----|----|-----|------|----|----|
| | £ | s. | d. | | £ | s. | d. | | £ | s. | d. |
| Groceries ... | 131 | 19 | 10 | ... | 71 | 6 | 3 | ... | 76 | 16 | 7 |
| Bread, &c. ... | 46 | 7 | 8 | ... | 17 | 9 | 10 | ... | 15 | 8 | 9 |
| Fish, &c. ... | 31 | 11 | 11 | ... | 15 | 10 | 0 | ... | 117 | 12 | 10 |
| Butchers' meat ... | 122 | 16 | 0 | ... | 66 | 5 | 5 | ... | 73 | 7 | 1 |
| Vegetables ... | 22 | 11 | 5 | ... | 15 | 19 | 11 | ... | 18 | 3 | 5 |
| Milk and Eggs ... | 130 | 17 | 3 | ... | 65 | 11 | 3 | ... | 15 | 14 | 3 |
| Total ... | £486 | 4 | 1 | | £252 | 3 | 0 | | £259 | 12 | 11 |

The patients were in hospital 9560 days, an average of 44.2 days per patient. The nurses and maids were in hospital 4668 days. This gives a total number of days of patients, nurses and maids in hospital of 24,228 and the cost per day per patient, nurse and maid for food is $8\frac{1}{8}$ of a penny ; last year the cost was $9\frac{1}{2}$ d. per day.

Great credit should be given to the Matron for the economical management of this large number of patients and staff.

The following is the number of nurses now employed :—

1 Matron.

1 Charge Nurse.

3 Assistant Nurses (one appointed whilst this report in hand).

1 Second year Probationer.

2 First „ „ (one appointed whilst this report in hand).

—
Total 8

Salaries paid to permanent nurses ... £184 12 5.

„ „ for hired nurses ... £197 0 2.

The Domestic Staff consists of 1 cook, general, 1 housemaid, 1 laundry-maid, 1 ward-maid, 1 porter, 1 washer-woman (occasionally).

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The resident accommodation provided which includes the additions recently added to the matron's cottage consist of 1 nurses' dining and sitting room, 1 nurses' sitting room, 3 double bedded rooms, 5 single bedded rooms.

It will be noted that three out of eight are only probationer nurses to whom cannot be committed the control of patients or wards.

The Matron's work is largely administrative, and although she may relieve the charge nurses occasionally, more cannot be expected from her in the way of actual nursing.

If it is also borne in mind that the majority of the patients are young children who need incessant care and supervision, and also that one nurse ought not be employed in the nursing of more than one kind of infectious disease, it will be readily appreciated by even those whose knowledge of hospital management is limited that the present staff is insufficient to deal with epidemic conditions, and that at such times and also when the nurses are on holiday or incapacitated by sickness, occasional outside help will continue to be required.

Nothing has been done in the matter of the demolition of the old Ducker Hospital.

Dr. Marsh remarks :—

“If you remember that out of 42 beds of which 12 are included in the Ducker Hospital no less than 20 are reserved for outside authorities. I think it will be obvious that it would be a wise policy to demolish the old Ducker which is now derelict and possesses neither gas nor water, and is badly lighted and ventilated, and substitute on the site a new block for 16 to 20 beds, part of which could be built on the Cubicle system whereby the cost of nursing would be very materially reduced. At the same time a separate building is badly needed for the isolation of suspected cases under observation, *i.e.*, a small building of two wards, and two beds in each ward, in which doubtful or suspected cases of scarlet fever, diphtheria, etc., might be kept under observation for a few days apart from other cases.

“During the year the hospital has been inspected once by the late County Medical Officer of Health, Dr. Vacher ; once by the present County Medical Officer of Health, Dr. Meredith Young ; and once by a Medical Inspector of the Local Government Board, Dr. Mivart. These inspections arose out of the

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applications of the Macclesfield Rural District Council and the Bollington Urban District Council to the County Council for a contribution towards the expenses incurred by them in subsidising beds and maintaining patients in the hospital.

“Dr. Mivart urged increased nursing accommodation and an unclimbable fence around the sites of the hospital.

“Dr. Meredith Young advocated—

- (1) Substitution of a new building for the old Ducker Hospital, to have 16 beds.
- (2) The erection of an observation ward to hold 4 beds.
- (3) The provision of covered ways between the various hospital buildings.
- (4) The provision of an unclimbable fence around the hospital.
- (5) The provision of discharging tanks at the foot of the bacteria beds, so that the fluid therefrom might be discharged into the subsoil drains in a flush.”

The following statement shows the accommodation now provided.

| | | | | |
|----------------------|-----|-----|----|------------------------|
| Total number of beds | ... | 40 | { | 16 New Brick Hospital. |
| | | | | 12 Humphreys Hospital. |
| | | | | 12 Ducker Hospital. |
| | | | | — |
| Total | ... | ... | 40 | — |

In the Small-Pox Hospital there are 12 beds in two wards.

In the General Isolation Hospital—

14 beds are reserved for Macclesfield Rural District Council.
 4 „ „ „ Bollington Urban District Council.

—
 Total 18 reserved beds in the General Isolation Hospital.
 —

In the Small-pox Hospital two beds (one male and one female) are reserved for the Bollington Urban District Council.

This leaves the Council with only 22 beds for their own area, exclusive of 10 in the Small-pox Hospital.

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The populations of the areas from which the Council now draw cases are as follows :—

| | | |
|-----------------------------|-----|--------|
| Macclesfield Borough | ... | 34,624 |
| Macclesfield Rural District | ... | 16,676 |
| Bollington Urban District | ... | 5,245 |
| | | <hr/> |
| Total | ... | 56,245 |
| | | <hr/> |

As two of the districts are Urban Districts, it is obvious that the accommodation provided is too little, especially for the Borough. One bed per 1,000 of population is the minimum requirement for Urban Districts.

It will be noted that only the extra accommodation for the nursing staff has been provided, and it is trusted that at an early date the old Ducker Hospital will be demolished.

The income from Hospital has been as follows :—

| | £ | s. | d. |
|---------------------------------|-----|-------|-----|
| From the Small-pox Hospital | ... | 33 | 0 0 |
| „ General Isolation Hospital... | 752 | 4 | 8 |
| | | <hr/> | |
| Total income for the year | ... | £785 | 4 8 |
| | | <hr/> | |

The provision of two additional nurses will materially reduce the cost of hiring nurses, which in addition to being costly is unsatisfactory in many ways.

It is pointed out to you that seven nurses, not including the Matron, whose work is supervisory, to 42 beds or an average of six patients per nurse is not sufficient for a general hospital, and certainly is very insufficient for a fever hospital, and consequently it is inevitable that supplementary help will have to be obtained. The opprobrium of small fever hospitals is inefficiency, and Dr. Marsh does not propose to conduct his hospitals so as to merit the epithet of being cheap but nasty.

Some useful remarks are made by Dr. Marsh on the treatment of cases in the hospital, from which the following are extracts :—

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"All scarlet fever cases may be classed as simple, septic or toxic in order of severity.

"In treating scarlet fever cases the first consideration is adequate floor space not less than 144 square feet for each patient. Next, rest in bed for 14 days is insisted on in all cases, even the mildest.

"Careful separation of the acute cases and the septic cases from the chronic and clean cases is essential. Children with running ears or noses should be rigorously excluded from contact with children free from such complications.

"As regards the treatment of the throats and noses, it is, I believe, a question whether the treatment of the throats and noses of clean cases does not do more harm than good. In a busy ward, even although the nurses wear rubber gloves and a separate nozzle is used for each child, the chances of infection from other patients is great, however careful nurses may be.

"I do not think that anything short of boiling the rubber gloves between each case can be regarded as safe.

"In the *Septic* cases, where there is much foul nasal discharge, I have begun the use of *Pyocyanase*, sprayed frequently into the nostrils and throats of the patient.

"*Pyocyanase* is a filtered broth in which bacillus pyocyaneus has been grown. The broth is filtered through a porcelain filter and concentrated to one-tenth of its bulk. It seems to inhibit the growth of the organisms of suppuration, and I am convinced it is a valuable remedy in cleaning up the foul nostrils and throats of septic scarlet fever patients if properly applied at frequent intervals. We have obtained it from the Bacteriological Institute, Dresden, Germany.

"In the *Toxic* cases, Polyvalent Antistreptococcus serum—which probably acts as a vaccine—together with Saline infusion, seems our only hopeful line of treatment. I propose trying *Streptococcus pyogenes longus* as a vaccine in some of these cases.

"Return Cases of Scarlet Fever.—When a patient discharged from a fever hospital infects, or is suspected of infecting another person, this latter person is termed a

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‘return case.’ Such cases as a rule occur only after scarlet fever and diphtheria.

“It may be stated that in spite of all precautions a certain number of return cases will occur. Much may be done to reduce their frequency by the use of convalescent wards, and the isolation of septic cases.

“The real danger lies in the throat and nose. Peeling on the feet may be safely disregarded.

“It must be remembered that the ‘return case’ has not necessarily been infected by the patient discharged from hospital.

“‘Return cases’ have been found to occur in a larger proportion when the patients have been treated at home.

“With a view to neutralising any infection which might be lodged in the throat and nose of convalescents I have tried the systematic syringing of these cavities with pyocyanase for a few days before discharge from hospital, and it is a remarkable coincidence that since doing so we have not had a single return case. I am continuing the experiment and I trust that in pyocyanase we may have a valuable bacteriacide. It must be noted that before applying pyocyanase the mucous membranes of the throat and nose are carefully douched with warm normal saline solution, so as to cleanse away all adherent mucus and further the pyocyanase is used warm.

“We are trying it as an instillation into ‘running ears’ together with the use of an autogenetic vaccine prepared from the bacteria found in the discharge from the ear.”

Diphtheria.—

| | | |
|-------------------------|-----|----|
| Number of cases treated | ... | 13 |
| Number of deaths | ... | 1 |

The one death occurred in a child who had laryngeal paralysis. She had been repeatedly intubated with temporary relief.

Dr. Marsh thinks that intubation will almost replace tracheotomy in hospital practice. It is easier to perform, and in his hands has been quite as satisfactory in relieving the difficulty of breathing.

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O'Dwyer's intubation tubes were used on all occasions

There have been no return cases of diphtheria, and this is attributed in some measure to the fact that no case is discharged from hospital until two consecutive negative swabs from nose and throat have been obtained.

The minimum dose of diphtheria antitoxin used has been one of 4,000 units. Considerably larger doses have been needed in special cases.

Enteric Fever.—

| | | |
|----------------------|-----|----|
| Number of admissions | ... | 18 |
| Number of deaths | ... | 3 |

One death followed perforation of the bowel, and as the patient at the time was feeble and exhausted, it was not deemed advisable to perform laparotomy.

Another death was due to exhaustion, the patient only coming into hospital late in the second week of the disease.

The treatment adopted has been the routine course, but more semi-solid feeding from the first has been permitted.

In three cases where the fever was very prolonged and convalescence delayed by repeated slight relapses, great benefit was derived from the subcutaneous injection of small doses of typhoid vaccine. A sharp rise of temperature occurred within twelve hours of the injection, followed by a rapid fall to below normal, and in twelve hours the temperature became steady at normal, and the patients expressed themselves as feeling much better.

The vaccine seemed to act as a spur to the sluggish immunising processes.

With a view to preventing the possibility of infection arising from patients discharged from hospital, whose stools or urine contained typhoid bacilli, samples of faeces and urine were sent to the Lister Institute for examination, but the cost of the prolonged and detailed bacteriological investigations was prohibitive.

Possibly the use of urotropine or helmitol will sterilise the urine, and a course of "sour milk" treatment for a few weeks

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before discharge, will eliminate the typhoid bacillus from the intestine, though such a line of treatment would obviously be futile when the gall bladder is infected. In such cases typhoid vaccine seems a reasonable prophylactic.

Erysipelas.—

Number of cases treated ... 4

No deaths.

All these cases were removed from the General Infirmary, in order to prevent the infection spreading to other patients who had been operated upon in the same wards.

They were treated by antistreptococcus serum (polyvalent) and the usual local applications.

Rubber gloves and overalls were required to be used by the nurses in attendance on the patients.

STALYBRIDGE

Municipal Borough.

Medical Officer of Health—DR. W. J. HANCOCK.

Population at Census, 1901—27,754.

Population estimated to middle of 1909—29,040.

Area in Acres—3,137.

Birth-rate per 1,000 living—20.5.

Death-rate per 1,000 living—15.87.

Death-rate from seven principal Zymotic Diseases—0.5.

Deaths under one year per 1,000 births—146.

The Municipal Borough of Stalybridge comprises 3,137 acres, and is divided into four Wards :—

| | | |
|--|---|--------|
| Lancashire Ward, with an estimated population of 6,235 | | |
| Stayley Ward, | „ | 11,209 |
| Dukinfield Ward, | „ | 8,382 |
| Millbrook Ward, | „ | 3,214 |
| Total Estimated Population of the Borough | | 29,040 |

The chief industry of the town is cotton spinning and manufacturing, though numerous other industries are successfully carried on, such as iron and brass works, calico printing and bleach works, woollen mills and other minor industries, but under conditions not specially injurious to health.

Births, Deaths, &c.—The year 1909 is remarkable for the lowness of both the births and the deaths, the numbers and the rates being lower than in any previous year.

During the year, there were 595 births registered in the Borough, giving a birth-rate of 20.5, as against 670 births and a birth-rate of 23.18 in 1908 ; and 461 deaths, giving a death-rate of 15.875, as against 557 deaths and a death-rate of 19.26 in 1908.

Infantile Mortality.—The deaths of infants under one year of age were 87, as against an average of 146 for the previous ten years, but computed upon the number of births registered the infantile mortality was 146 against an average of 211 for the previous ten years.

Stalybridge Municipal Borough.

For the respective wards the following are the rates of infantile mortality :—

| | | | |
|-----------------|-----|-----|-----|
| Lancashire Ward | ... | ... | 179 |
| Stayley | ... | ... | 145 |
| Dukinfield | ... | ... | 157 |
| Millbrook | ... | ... | 50 |

The Medical Officer of Health remarks :—“ We cannot but regard the great improvement in the infantile mortality during the year with pleasure and satisfaction, and I hope we may justly regard this improvement as not solely dependent upon the climatic conditions which prevailed during the summer and autumn, keeping diarrhœal diseases down at a minimum, but possibly also to steadily improving sanitary conditions and to the efforts of Miss Hanson, our Lady Sanitary Inspector.

“ Miss Hanson commenced her duties in February, 1908, and the Notification of Births Act, 1907, came into force in our borough on March 1st, 1908. During the year 1909 this Act as met with a very ready response, both from the general public and from the midwives, and there occurred very few births indeed which were not notified to me in accordance with its provisions. Information regarding these omissions was kindly given me by Mr. Flint, the Registrar of births and deaths, and upon enquiry I invariably found the reason was ignorance of the Act, and not neglect of it, upon the part of the parents, though they might reasonably have been reminded of their duty by the medical practitioner in attendance. Up to the present time such omissions to notify the birth have been met with a caution, and I trust that in future there will be no necessity to institute further proceedings.

“ Very shortly after a birth has been notified Miss Hanson visits the home, gives advice *re* the feeding and management of the infant, notes any defects or insanitary conditions in or about the premises, and reports thereon. Visits are again paid to these homes when the infants attain the age of three, six, and nine months, and reports are again made, while additional visits are paid whenever it is thought advisable.

“ During the year she has paid 2,016 visits *re* births, and 750 occasional visits.

“ Besides visiting newly-born infants she also investigates all cases of deaths of infants under one year of age, and in this connection she has inquired into the deaths of 81 infants. Of these

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she ascertained that 21 had never partaken of any food, 17 had been entirely breast-fed, and 43 had been artificially fed.

“Her observations lead her to believe that breast-feeding has been more systematically and more persistently followed out during the year than was the case during the preceding year.”

Summary of the Causes of Death of Infants under one year of age.

| | | | | |
|----------------------|-----|-----|-----|----------|
| Scarlet Fever | ... | ... | ... | 1 |
| Measles | ... | ... | ... | 2 |
| Diarrhœal Diseases | ... | .. | . | 3 |
| Wasting Diseases | ... | .. | ... | 38 |
| Tuberculous Diseases | ... | ... | ... | 6 |
| All other causes | ... | ... | ... | 37 |
| | | | | <hr/> 87 |

Infectious Diseases.—In 1891 the Infectious Diseases (Notification) Act, 1889, and the Infectious Diseases (Prevention) Act, 1890, were adopted, and during the year 1909 the cases notified and the deaths occurring among them were as follows:—

| | | Number of Cases Notified. | | Number of Deaths. |
|------------------|-----|------------------------------|-----|----------------------|
| Scarlet Fever | ... | 153 | ... | 3 |
| Diphtheria | ... | 11 | ... | 0 |
| Membranous Croup | ... | 3 | .. | 0 |
| Typhoid Fever | ... | 25 | ... | 2 |
| Puerperal Fever | ... | 3 | ... | 0 |
| Erysipelas | ... | 17 | ... | 3 |
| | | <hr/> 212 | | <hr/> 8 |

Whenever infectious cases are notified, full enquiries are made, all needful instructions are given and precautions taken to prevent any further spread of the disease, and any sanitary defects are noted and steps taken to remedy the same.

Whenever it is advisable, the Librarian is informed, so that the issue of books to the infected family may be temporarily stopped, and any books which have become contaminated are taken by the Sanitary Inspector and destroyed. Heads of schools are also similarly notified, so that children from infected homes may not be admitted.

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Small-pox.—The Borough has remained free from this disease throughout the year.

Measles.—This disease is not notifiable, but several cases came to the knowledge of the Sanitary Authority through the School Attendance Officers.

The Schools mostly affected were St. James's (Millbrook) School and Buckton Vale School, and these Schools received a thorough disinfection under the supervision of the Sanitary Inspector. The number of deaths attributed to this disease throughout the Borough during the year was 7.

Scarlet Fever.—During the year 153 cases of scarlet fever were notified.

The disease was of a mild type, but three deaths resulted from it. It was probably owing to the mild type of the disease, and to the fact that a few of the cases were not recognised until desquamation had commenced, as much as to the impossibility in some instances to secure anything like isolation of the sufferer, that the disease continued to spread.

There is also good reason to believe that a few cases have escaped detection altogether owing to the attack having been so slight that no medical man had been called in, and such cases are liable to prove very powerful agents in the propagation of the disease, because of the lack of all necessary precautions.

Diphtheria and Membranous Croup.—Fourteen cases were notified but no deaths ensued, as against 10 cases and 5 deaths last year. The question of supplying antitoxin free of charge to necessitous cases is at the present time under the consideration of the Sanitary Committee.

Whooping-cough.—No deaths were attributed to this insidious disease, whereas 19 deaths were recorded during the year 1908.

Puerperal Fever.—Three cases were notified during the year, and they terminated favourably. Considering the large number of cases attended by the midwives in the Borough this is very satisfactory. The midwives in Stalybridge strive to carry out their duties in a careful manner, and give little cause for complaint.

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Pulmonary Tuberculosis.—Notification of cases of pulmonary tuberculosis except under the Public Health (Tuberculosis) Regulations, 1908, is not in force in this Borough, but the Sanitary Inspector is furnished by the Medical Officer of Health with a weekly return of any deaths registered as due to pulmonary tuberculosis, so that he may visit and ask permission to disinfect any bedding and rooms used by the sufferer, and as a rule the friends are most willing to allow these precautions to be taken.

Under the Public Health (Tuberculosis) Regulations, 1908, all cases of pulmonary tuberculosis occurring amongst poor persons, who are in receipt of either indoor or outdoor relief, must be notified by a Poor Law Officer to the Medical Officer of Health, and during the year 56 notifications have been received, 32 of which were from the Medical Officer of the Workhouse and 24 from the two District Medical Officers for Stalybridge. These 56 notifications had reference to only 36 persons, some of whom were notified several times. Of these 36 persons 26 were inmates of the Workhouse either permanently or temporarily, while 10 resided in various parts of the Borough and were not admitted into the Workhouse. Moreover 12 of the 36 persons notified have died during the year.

When a person resident in the Borough is notified as suffering from pulmonary tuberculosis full enquiries are made regarding the premises as well as the inmates, a handbill of instructions is left with the sufferer, and the inmates are advised to have the premises periodically disinfected by the Sanitary Authority.

The following are the numbers of deaths and the death-rates from pulmonary tuberculosis during recent years:—

| Year:— | 1909 | 1908 | 1907 | 1906 |
|----------------------|------|------|------|------|
| Number of Deaths ... | 35 | 38 | 39 | 36 |
| Death Rate ... | 1.2 | 1.31 | 1.35 | 1.25 |

Cancer.—The mortality from cancer (including “malignant disease”) continues heavy, 28 deaths having resulted from this disease during the year, the numbers for previous years being:

| 1908 | 1907 | 1906 | 1905 | 1904 | 1903 | 1902 | 1901 |
|-------------------|--------|------------------|--------|---------|---------|-------------------------|------|
| 21 | 22 | 28 | 23 | 20 | 19 | 33 | 25 |
| Seat of disease } | Mouth. | Digestive Tract. | Liver. | Breast. | Uterus. | Other parts or Organs 2 | |
| | 2 | 8 | 5 | 8 | 3 | | |

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As regards sex, six of the deaths were of males, and twenty-two were of females.

Diarrhœa and Enteritis.—These diseases, the prevalence and severity of which are so largely dependent upon the climatic conditions of the summer months, caused only 3 deaths, as against 30 during the year 1908.

Typhoid Fever.—Twenty-five cases were notified during the year, but only 2 deaths took place.

The number of cases is somewhat greater than that for the preceding five years, but fortunately the mortality was very low.

As regards the premises associated with these cases the majority of them were provided with the old-fashioned privy, and in two instances in which the disease occurred where the water carriage system existed there is every reason to believe that the disease had been elsewhere acquired and the sufferer had brought it nere.

There is no hospital for these cases so that they have had to be treated at home, often under the most disadvantageous conditions, but great precautions to prevent its spread are taken by the Sanitary Authority in providing special pails with disinfectants for the reception of all discharges from the sufferer, in instructing the inmates upon the necessity for strict personal cleanliness of the patient and themselves, as well as for cleanliness of the bed and body linen, in advising the destruction of all food left by the patient, and in the destruction of beds and mattresses which have become much soiled with discharges. The sanitary conveniences of the premises also receive prompt and thorough attention.

This insidious disease is certainly not distributed by the water-supply, which is of the purest, but is largely consequent upon foul privy ashpits which exist throughout the town, which are gradually being replaced by water closets with receptacles for garbage and ashes which are frequently and regularly emptied.

Privy Midden Conversions.—A considerable amount of work, the benefits of which will be felt for many years, has been done under this heading. Including additional closets provided 110 water closets and 20 waste water closets have

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been put in to replace or supplement privy midden accommodation.

Refuse Disposal.—The lesser portion of the town is now on the privy ashpit system, for rapid strides continue to be made in the conversion of privies into either waste water or town's water closets, with receptacles for house refuse, and these conversions are mostly taking place among the worst types of privy ashpits.

Since October 1st, 1907, the Sanitary Department has had entire control over the removal and disposal of all midden and house refuse in the Borough, which, with the exception of that from the Carrbrook and Hey Heads districts, is now conveyed to the town's destructor at the "Flatts."

The Refuse Destructor, erected by Heenan and Froude, of Manchester, is a five-cell furnace of the "Heenan" patent top feed type, and is furnished with all the latest improvements.

The plant is shut down about every six weeks for a few days to allow of the cleaning of the combustion chamber, the flues, the superheater, &c.

Complaints of the emission of obnoxious fumes from the chimney have been less frequent during the past year. Usually the cause has been the re-starting of the furnaces after being shut down, and it has only continued until the temperature in the combustion chamber has attained a certain minimum. Nevertheless there are occasions when there is every reason to believe that the nuisance is aggravated by the chimney not being sufficiently high, and the raising of the chimney would not only assuage sentimental prejudice, but also at the same time carry to a wider and more distant area any obnoxious fumes or dust which were actually evolved.

During the year all the night refuse from Millbrook has been conveyed by canal boat to the Destructor works. This refuse, and other sundry loads collected at the time of flue cleaning, has been deposited in a convenient place in the Destructor yard. From this storage heap 112 loads in the night time and 94 loads in the day time have been removed to the cells chiefly at the time when the refuse was low in the ashpits.

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The average weight of day and night refuse disposed of per month works out at 628 tons, 10 cwt. 1 qr. Forty-one tons. 9 cwt. 2 qrs. of fish and butchers' offal conveyed by dealers' carts; one sheep, one pig, a large number of dogs and 220 mattresses have been destroyed during the year.

The "Castle Clough" tip continues to serve for ashpit refuse from the Heyheads and Carrbrook district, and the "Brushes" tip for the disposal of clinker refuse from schools and other premises heated by the hot water system.

Water-supply.—Along with the neighbouring Boroughs of Ashton-under-Lyne, Dukinfield and Mossley, Stalybridge is supplied with an abundance of pure water from extensive reservoirs which have a holding capacity of close upon 900,000,000 gallons, and the work of constructing a large reservoir in the Chew Valley, for water for compensation purposes, is now proceeding.

The supply to Stalybridge is almost wholly derived from the Brushes Reservoir, but portions of the Borough, namely, Heyrod, Hough Hill, and the district of Mottram Road above Bower Fold, are supplied from the Lower Swineshaw Reservoir, which also supplies the adjacent Borough of Mossley. The gathering ground at Swineshaw is 1,300 acres in extent, and has an elevation of 884 feet. The Higher Swineshaw Reservoir has a depth of 53 feet and a capacity of 168,908,000 gallons, and it supplies both the Lower Swineshaw Reservoir and the Brushes Reservoir.

During the past year no case of lead poisoning, attributable to the water-supply, has been brought to notice.

Sewage Disposal.—The older portions of the Borough are now well sewered, and extensions are constantly being made into the more outlying portions of the town. The sewage is disposed of along with that of Dukinfield at Outfall Works, situated at Bradley Hurst, in the township of Dukinfield. The sewage farm has an area of 63½ acres, and the average dry weather flow of sewage coming to the works from the combined districts is about 2 million gallons per 24 hours. The method of treatment is by screening, chemical precipitation (alumino-ferric and ferrozone being used), sedimentation in large tanks (of which there are 12, in two sets of 6, of 80,000 gallons capacity each) worked upon the continuous flow principle, and then passing the tank effluent on to large

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sand filters, which unfortunately have almost ceased to act as such owing to the clayey nature of the soil forming the body of these filters, or on to one or other of 3 plots of land for land filtration, but these plots have become more or less sewage choked.

The sludge in the tanks passes into a sludge-well from which it is ejected into a sludge tower, ready to be conveyed to 2 large presses which convert it into a satisfactory sludge cake which has been found to be of no little value as a manure.

During the year, 10,410 tons of wet sludge were taken from the tanks and pressed into sludge cake of a weight of 1,840 tons. Of this sludge cake no less than 1,708 loads have been taken by farmers for use as manure. The road dirt or sand taken from the detritus pits amounted to 458 tons.

In consequence of the choked condition of the sand filters and the saturation of the 3 plots for land filtration the effluent has for some time past been of an unsatisfactory character, so that the Joint Sewerage Board found it necessary to adopt further measures in order to comply with the requirements of the Mersey and Irwell Rivers Board.

Plans and specifications for the improvement of the works were prepared and submitted to the Local Government Board, receiving sanction on August 11th, 1908. Tenders were shortly afterwards obtained and the contract for the work was let to Messrs. W. Storrs and Sons, of Stalybridge, who commenced the work in April last, but progress with it has unfortunately been somewhat slow.

The scheme comprises :—

(1). The construction of 5 new Roughing Filters, with an aggregate area of 1,100 square yards, in which the effluent from the large sedimentation tanks will filter through a bed of coke 2ft. 8in. in depth. This coke, when it has played its part, will be removed and utilised as fuel for the boiler furnaces, its place being taken by fresh supplies of coke.

(2). The re-laying of the $2\frac{1}{4}$ acres of useless sand filters as percolating beds. These filters have been excavated and drained, and are now being filled with carefully selected graded clinker of a depth of 5 feet. Over these beds the effluent from either the Roughing Filters or the Sedimentation Tanks will be distributed by means of Combe's sprinklers attached to iron distributing pipes running transversely across the beds at suitable intervals.

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At the present time, while these new works are under construction, the effluent cannot possibly be made satisfactory, but when the alterations and additions have been completed and are utilised, it is anticipated that a thoroughly satisfactory effluent will be obtained.

In addition to the foregoing improvements to the works, the method of dealing with the storm water must later receive attention and provision for it will have to be made upon other portions of the land.

The Medical Officer of Health proceeds:—

“In my previous annual report I referred to the disposal of the sewage from the property situate in the higher portion of Mottram Road and in Matley, where we have a rising residential district, for which the provision for dealing with the sewage therefrom is both unsatisfactory, and inadequate.

“Since then several Villa residences have been erected in our own district and the sewer has already been extended some distance up Mottram Road in order to pick up the sewage from these, but there is urgent need for such an extension of this sewer as will be capable of receiving the sewage from the whole of the districts referred to above, when there is every reason to believe that all parties concerned will agree to the sewage from these districts being conveyed by our sewers to Bradley Hurst to be dealt with there by the Joint Sewerage Board.

“During the year the Borough of Mossley has been extending its Sewage Works at Blackrock, within our Borough, and when these extensions have been completed, it will be possible, in accordance with an agreement between the Borough of Mossley and our own Borough, to deal more satisfactorily with the sewage in the districts of Heyrod and Blackrock than has hitherto been possible.”

Isolation Hospital Accommodation.—Unfortunately this Borough is still without Isolation Hospital accommodation for infectious diseases other than small-pox.

For small-pox there is provision made along with the neighbouring authorities of Ashton-under-Lyne, Hurst, Limehurst and Audenshaw, at Hartshead.

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The hospital proper is a corrugated iron building, containing two wards with 10 beds in each ward, and with annexes for earth-closets and sinks, and kitchen and bath-room.

The old farm house adjoining the hospital has been adapted into an administration block for the matron and nurses, and a cottage for a caretaker.

Some outbuildings of the farm have been transformed so as to furnish a laundry, a disinfecting chamber with a Thresh's disinfecter, a storeroom, a dispensary, and day-rooms and bed-rooms for convalescents and nurses, with bathrooms and w.c.

A mortuary with two slabs is provided well away from the hospital.

The water-supply is derived from the surrounding land, and collected in two large tanks, from which it is conveyed by galvanized iron service pipes. The water has been analysed and declared quite fit for all domestic purposes.

The site at Hartshead belonging to the Joint Small-pox Hospital Board is an extensive site comprising several plots, and measuring in all some 40 acres, and only a small portion of it is occupied by the Small-pox Hospital with its administration block and outbuildings, and here is ample scope for the erection of other blocks, in which provision should be made for other infectious diseases, notably scarlet fever, diphtheria, and typhoid fever.

On November 26th, 1908, at the Ashton-under-Lyne Town Hall, a Local Government Board Inquiry was held *re* the application of the Joint Small Pox Hospital Board to become a Joint Hospital Board with power "to provide, maintain and manage hospital accommodation for the reception of cases, and of infectious diseases, other than small-pox," but the sanction of the Local Government Board to this application is withheld at present, as the Local Government Board desires to be satisfied that the buildings which the Joint Hospital Board contemplate erecting will be of a sufficiently substantial character for their exposed situation.

With the object of minimising as much as possible the individual expenditure of the constituent authorities the Joint Hospital Board are now inviting the co-operation in the scheme

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of other neighbouring authorities, and the authorities of Denton and of Droylsden are giving the matter careful consideration.

It is sincerely to be hoped that before long satisfactory arrangements will be made so that the scheme may be efficiently carried out.

The Disinfection Station.—This Station is situated at the Flatts, in proximity to the Destructor. It contains a receiving room, a bath room, a dressing-room, and a discharging room, through which “contacts” can be passed so that they are then free to mingle again with their fellow-men, while disinfection of clothing or bedding can be efficiently carried out by saturated steam under pressure in a “Nottingham” Steam Disinfector, fitted with vacuum and exhaust apparatus of the latest type.

It has been most valuable for the disinfection of bedding and other articles in cases of Scarlet and typhoid fevers, as well as of puerperal fever and of phthisis, thereby assisting most powerfully in the control and prevention of infectious disease.

Common Lodging-houses.—There are only two common lodging-houses in the Borough. They have been visited on several occasions, and attention has been drawn to any defective sanitary conditions which have been observed. The old straw mattresses, which had become more or less filthy and verminous, have been replaced by wire mattresses, and many structural defects have been remedied.

Meat Inspection.—During the year the Meat Inspector, Mr. Edward Brown, has inspected the carcasses of 18 pigs, which were slaughtered on unlicensed premises in various parts of the Borough. He found them all sound and in good condition.

A cow and a heifer slaughtered by butchers on licensed premises were reported to the Meat Inspector as “graped.” The disease was found to be more or less localised, so the affected parts were freely cut away and sent to the Destructor.

There have also been reported to the Meat Inspector, and after his inspection been sent to the Destructor—

1 sheep found dead.

1 pig found to be badly discoloured after being slaughtered.

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Factory and Workshop Act.—The factories in the Borough including workshop factories) number 78. At two of the factories the sanitary conveniences have during the year been added to and put into a satisfactory condition.

As regards the workshops, of which there are at present 142 on the register, several of these have received the attention of the Sanitary Inspector in such matters as want of limewashing and general cleanliness, omission to affix abstract insufficient sanitary accommodation, and other minor defects.

The majority of the bakehouses are kept in a very satisfactory condition, and none of them are underground. They have been inspected twice during the year, and attention has been called to any defect or insanitary condition observed.

Housing of the Working Classes.—The people are on the whole well housed, though, as may be expected in an old town such as Stalybridge, there are still some slums.

During the year the Medical Officer of Health certified that the buildings Nos. 6, 8, 10 and 12, Heap's Yard, off Tame Street, 38 and 40, Robinson Street, and 52 and 54, Tame Street were unfair for human habitation. The premises were visited by a Sub-Committee and notice of the certificate was served upon the owner but he failed to comply with the provisions of the notice and it was resolved and ordered—"That such buildings be and are hereby declared unfit for habitation and that the same shall not after the 22nd day of May be inhabited and that due notice of this resolution be given in accordance with the provisions of the Stalybridge Extension and Improvement Act, 1881." The premises thereupon became empty and have not since been tenanted.

A cottage in Howard's Court was also deemed unfit for human habitation and was closed by the owner at my request.

In a few instances of overcrowding the tenants were persuaded to remove to other premises with more accommodation.

There is, however, urgent need for a greater number, as well as for more commodious, houses for the working classes. The erection of new cotton mills has not been accompanied by a like building of new houses for the operatives, many of whom are consequently derived from neighbouring boroughs.

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Dairies, Cowsheds, and Milkshops.—Frequent inspections of the dairies and cowsheds within the Borough have been made during the year. The number of farmsteads stands at 35, and the number of town shippens at 2, being a decrease of 2.

Early in the year it was reported that a building in the vicinity of Kay Street was being used for the accommodation of milk cows. The Visiting Sub-Committee inspected the premises, and it was decided that the same should be discontinued.

The premises—shippens and dairies—are generally speaking, kept in a cleanly state, and several improvements of a minor type have been carried out. In two cases it has been necessary to serve notices for attention to water supplies which were being seriously polluted.

A new shippen is being erected of ferro-concrete at Heap's Farm, Mottram Old Road, and arrangements for a new shippen near Pott Hill, for Mr. Kenworthy, are being made, which will mean the closing of the unsatisfactory premises at Tonge Green for dairy purposes.

Milkshops.—The milkshops within the Borough, which number 42, have been periodically inspected. There has been no serious cause for complaint with respect to the storage of milk on these premises.

Offensive Trades.—The premises used for boiling tripe have been inspected several times during the year. In three cases it was found necessary to complain to the occupiers of the dirty state of the premises and the necessity of regular white-washing of the walls and general cleansing. No new premises have been allowed to be used for the purpose of boiling tripe during the past 12 months.

Slaughter-houses.—The premises licensed by the Council for slaughtering cattle and other animals have been reduced to 15. Two applications for licenses were refused and two have ceased to be used, having become untenanted during the year.

Sanitary improvements have been carried out at several of the slaughter-houses as stated below ; and, taking the premises as a whole, they have been kept in a very good condition, the occupiers giving better attention to the general cleanliness of the premises and to frequent lime-washing.

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Canal Boats Acts.—The number duly inspected is 44. This total represents more than double the number inspected last year, and the condition of the boats and their occupants was satisfactory.

There have been four infringements, which include the absence of certificate on board of two boats, absence of water vessel, and one case in which the cabin was not in a cleanly and habitable condition. Three of these received attention.

Five boats carried women and children ; the remainder were occupied by men only. All the occupants appeared to be in good health and free from infectious disease.

Smoke Observations.—The observations of smoke emitted from the chimneys belonging to mills and other factories within the Borough, taken during the past year, show a marked increase in the number of those emitting dense smoke as compared with last year's report. Fifty-nine observations were taken.

ALDERLEY EDGE**Urban District.**

Medical Officer of Health—DR. G. W. DOWLING.

Population at Census, 1901—2,856.

Population estimated to middle of 1909—3,130.

Area in Acres—599.

Birth-rate per 1,000 living—18.8.

Death-rate per 1,000 living—12.1.

Death-rate from seven principal Zymotic Diseases—0.31

Deaths under one year per 1,000 births—118.

Population, Births, Deaths, &c.—In 1909, 59 births were registered. Two births were illegitimate. The birth-rate was 18.8 per 1,000 estimated population as against 17.4 in 1908 and was 0.4 lower than the average for ten years 1899-1908.

38 deaths were registered. The death-rate per 1,000 estimated population was 12.1, as against 4.5 in 1908, and was .9 higher than the average for ten years 1899-1908.

Seven deaths of infants (under one year of age) were registered in 1909. The death-rate of infants (under one year of age) per 1,000 births registered was 118 as against 37 in 1908. The average for the ten years 1899-1908 was 71.

The causes of death were diphtheria 1, enteritis 1, pulmonary tuberculosis 3, cancer 9, bronchitis 2, pneumonia 3, cirrhosis of liver 1, premature birth 3, heart disease 5, accident 1, other causes 9.

Infectious Diseases.—103 cases of infectious diseases were notified. Of these 67 were measles which has been notifiable in this district since 1893. Diphtheria, 1; erysipelas, 3; puerperal fever, 1; scarlet fever, 31. In the case of puerperal fever strict inquiry resulted in the midwife being exonerated from all blame.

Whooping-cough.—There have been very few cases of whooping-cough in the District, and not many cases of diarrhoea during the year. Both measles and German measles were very prevalent from April to June.

Scarlet Fever.—The majority of the cases of scarlet fever were in July, and chiefly of children attending the infant school. Instructions were given for the infant school to be closed from March 15th to 26th, and from July 12th to 30th. Most of the cases were of an extremely mild type. There is no doubt that

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some cases were so very mild that they were overlooked by the parents and the peeling so slight that it was never noticed. During the periods in which the school was closed it was thoroughly disinfected and limewashed. 21 cases were sent to the Isolation Hospital at Baguley, and the majority of the others would have gone also only at one period the hospital was full and could not take in any more.

Enteric Fever.—There were not any cases of enteric fever during the year, and only one case of diphtheria was notified—this terminated fatally. In 1897 the District Council made arrangements with Professor Delépine, of the Public Health Laboratory of Manchester, for the examination of swabs from the throats of suspected cases of diphtheria. Anti-toxin is supplied by the District Council and can be obtained from the Medical Officer of Health.

Isolation Hospital.—Alderley Edge is one of the districts forming the Bucklow Joint Hospital Board. Cases of infectious diseases (except small-pox) can be sent to the Manchester Corporation Isolation Hospital at Baguley. Cases of small-pox would be sent to the Bucklow Joint Hospital Board's temporary Isolation Hospital at Baguley.

Water-supply.—This is supplied by the Stockport Corporation. No complaint as to its action on lead has been received. The supply has been good and ample. One sample from a pump well was analysed and as the report was not satisfactory the well has been closed and town's water laid on to the house.

Dairies, Cowsheds and Milkshops.—There are five dairies and five cowsheds in the district. These were all inspected and no instances of defects were found. Regulations are in force under the Dairies, Cowsheds and Milkshops Order.

New Dwellings.—Two new houses were built. No cases of overcrowding came under notice. Accommodation is generally satisfactory. Bye-laws are in force as to houses let in lodgings.

Prevention of Consumption.—No system of notification of cases of pulmonary tuberculosis compulsory or voluntary is in operation. As yet no provisions have been made for treating cases at any Hospital which the Local Authority has the right to use.

Alderley Edge Urban District.

Slaughter-house.—There is only one in the district. This has been inspected and found in good order. Bye-laws are in force relating to slaughter-houses.

Bakehouses.—These were all inspected and found in a satisfactory condition. There is no underground bakehouse in the district.

Refuse Removal.—This is carried out by the Local Authority. Midden privies are emptied monthly. Dry ashpits as a rule each month, and dustbins each week. There are no cess-pools in the district. The present system seems to be adequate.

Sewage Disposal.—The system used is tanks, cinderfilters, and land. No complaints were received during 1909 as to the outfall works.

Factory and Workshops Act.—63 inspections of factories and workshops were made. Three instances of want of cleanliness, one of insufficient sanitary accommodation were found and remedied.

In the district there are—Bakehouses, 10; livery stables, 4; dressmakers and milliners, 12; bootmakers, 4; builders, 4; tailor, 1; saddlers, 2; cabinet makers and upholsterers, 3; motor repairers and engineers, 4.

Births Notification.—The Notification of Births Act, 1907, has not been adopted

ALSAGER**Urban District.**

Medical Officer of Health—DR. H. F. KINGSTON.

Population at Census, 1901—2,597.

Population estimated to middle of 1909—2,850.

Area in Acres—2,241.

Birth-rate per 1,000 living—19.64.

Death-rate per 1,000 living—12.87.

Death-rate from seven principal Zymotic Diseases—0.35

Deaths under one year per 1,000 births—89.

Population, Births, Deaths, &c.—The population of this Urban District is estimated to be 2,850 in mid-year 1909.

There were 56 births registered, equal to a rate of 19.64 per thousand of the estimated population.

There were 35 deaths registered, equal to a rate of 12.87 per thousand of the estimated population. The infantile mortality was 89 per 1,000 registered births.

The causes of death were as follows:—

Causes of death at all ages:—malignant disease (cancer), 5; heart disease, 5; pneumonia, 3; tuberculosis, 3; bronchitis, 2; old age, 3; other causes, 14; total, 35.

This includes 2 deaths of residents in a Public Institution out of the district, *i.e.*, both were operated on and died in the North Staffordshire Infirmary.

Infectious Disease.—The following notifications of infectious diseases were received:—diphtheria, 2; enteric fever, 2; scarlet fever, 8; total, 12.

Isolation Hospital Accommodation.—After considerable delay, the West Heath Isolation Hospital near Congleton is now open for the reception of patients from the districts of Congleton, Sandbach, Alsager, Biddulph and Buglawton. The Hospital is thoroughly up to date and contains 30 beds.

Alsager Water-supply.—The supply is from the same source as last year. Though hard it is considered a good drinking water. The supply is efficient.

Alsager Urban District.

Linley Water-supply.—With regard to this supply the Medical Officer of Health reiterates his remarks made in last year's Annual Report, that "the wells were very unsatisfactory, that it is absolutely imperative that Linley should have a supply of pure water, the sooner the matter was taken in hand and hurried forward the better for the inhabitants."

The Alsager Urban District Council is still awaiting the sanction of the Local Government Board to the scheme of supplying Linley with water from the Alsager supply. In the meantime, rather than that the inhabitants of Linley should jeopardize their lives by drinking the local well water they have placed a tap from the Alsager supply pipe, in as central position as the pressure of water will allow, thus giving the people drinking water, for which they are not charged water rates, as they naturally refused to pay for water if they had to draw it.

There have been two cases of enteric fever in Linley this year which may have been caused by the patients drinking from the Linley well.

Sewage Disposal.—The system of land filtration—after the sewage has passed through two settling tanks—is still in vogue. The large flow of water on to the farm—due to the heavy rainfall this year—has been at times very difficult to deal with, but there have been no complaints of the outfall. The Council have under their consideration a scheme of improved sewage disposal and hope to carry it out at a later date.

Sewerage.—The sewers have been periodically inspected and found free from deposit or offensive smell. The man-holes are kept clean. The sewer in Talke and Alsager Road will be improved by the Council at an early date.

Closets.—These have been periodically emptied, and if insanitary an earthenware pan has been put in. There have been 17 new fixed earthenware pans put in in the district. The Council sanctions either water closets or pans only now. The scavenging has been carried out in a satisfactory manner during the year.

Adoptive Acts.—Part 3, Sections 39–42 of the Amendment Act of 1907 have been put into force in the district.

Alsager Urban District.

The Notification of Births Act has not been adopted by the Council owing to the low infantile mortality in the

Phthisis.—In January, 1909, the Act requiring the “Notification of cases of pulmonary tuberculosis occurring amongst the inmates of Poor Law Institutions, or amongst persons under the care of District Medical Officers and of taking certain measures in such cases” came into force.

Two cases in the district have been notified. Such cases are provided with sputum cups and all the necessary antiseptics, are cautioned against spitting anywhere but in the cups, are isolated—as far as possible—from the other inmates of the house, and are advised to keep their windows open constantly. All utensils used by them, all towels, bed clothes, &c., are either boiled or treated with antiseptics to prevent the spread of contagion. The houses are visited, and in case of death the premises are disinfected by the Sanitary Inspector. The treatment of tuberculosis in cottages is far from satisfactory, and it is considered that Public Institutions should be maintained throughout the country for the proper treatment of the consumptive poor.

Bakeries, Dairies, Milkshops and Slaughter-houses.—These have been inspected periodically and kept clean and sanitary and well whitewashed. There are 4 slaughter-houses. They have not been visited at the time of slaughtering. There is no Meat Inspector. There have been no carcasses or parts of carcasses found to be tuberculous. There has been no examination of Dairy Cows by a Veterinary Surgeon for tuberculosis in cattle.

Factory and Workshops Act.—There are 124 persons engaged in factories and workshops, viz.:—

| | | | |
|--------------|-----|-----|-------|
| In Factories | ... | ... | 28 |
| In Workshops | ... | ... | 96 |
| | | | <hr/> |
| Total | ... | ... | 124 |
| | | | <hr/> |

The factories and workshops have been regularly visited and inspected and kept in a sanitary condition.

ALTRINCHAM

Urban District.

Medical Officer of Health—DR. A. GOLLAND.

Population at Census, 1901—16,831.

Population estimated to middle of 1909—18,652.

Area in Acres—662.

Birth-rate per 1,000 living—23.8.

Death-rate per 1,000 living—13.5.

Death-rate from seven principal Zymotic Diseases—0.3.

Deaths under one year per 1,000 births—96.

Population.—At the census of 1901 this was 16,831, and estimated to mid-year 1909 it is 18,652, an increase of 1,821, or 10.7 per cent.

Births.—The births registered this year were, males 233, females 212, or a total of 445. The number last year was 457, and for the past ten years the average was 470, showing a declining birth-rate.

The birth-rate for 1909 was equal to 23.8 per 1,000, for last year 25.7, and for the average of ten years 27.2, a somewhat serious shrinkage in fertility. There were 12 illegitimate births.

Deaths.—The deaths registered were 242, and adding to these 11, the deaths of old Altrincham residents who died in the Workhouse at Knutsford, we have a total of 253. Of these, 43 were infants under one year of age, and 96 persons of over sixty years. There were 135 deaths of males and 118 of females.

The general death-rate is 13.5 per annum per 1,000 as against 13.9 last year, and 14.9 the ten years' average.

Infant Mortality.—The infantile mortality is the least we have ever had—43 deaths equals a rate of 96 per 1,000 as against a ten years' average of 141 per 1,000. It is pleasing to see this mortality decreasing year by year as it has done for some years past.

Hospital Deaths.—The deaths in the hospital were 28, including 11 strangers who were under treatment.

Zymotic Deaths.—The zymotic rate is almost nil, 0.3 per 1,000, and is very satisfactory, as there has been a considerable epidemic of scarlatina this year.

Altrincham Urban District.

Infectious Disease.—The notifications received were, scarlatina 131, diphtheria 9, erysipelas 7, typhoid fever 2, phthisis 13. Of these, 123 cases were removed to hospital with only one death there.

There were also notifications from the schools of measles 67, mumps 50, chicken-pox 13, scarlatina 3, and fever (undescribed) 1. Dr. Golland greatly appreciates these school notifications.

Causes of Death.—Of the general deaths, the most numerous causes were, measles 4, influenza 8, intestinal diseases 9, phthisis 17, cancer 14, bronchitis 26, pneumonia 23, heart disease 29, premature births 6.

There were 2 suicides and inquests were held in 12 cases.

Water-supply.—This is from the North Cheshire Water Co. and has been good; during the year many houses hitherto using a stand pipe have had an individual supply laid on.

Refuse Removal.—Scavenging and refuse removal is generally more satisfactory than it used to be. The question of a separate sanitary department is under consideration.

The question of sewerage in connection with a further conversion of privy ash-pits into w.c.'s is now occupying the special attention of the Surveyor and Medical Officer of Health.

New Hospital.—The New Fever Hospital progresses quickly and promises a very great improvement on what it has been possible to do in the past with Lloyd's Fever Hospital with regard to isolation of all the important infectious diseases instead of scarlatina and diphtheria only.

Sanitary Inspector's Report.—This commences with a list of matters dealt with by notice or letter, and then passes on to a discussion of several points of sanitary interest, as follows:—

Smoke Observations.—Many observations have been taken during the year and the offenders have had their attention specially drawn to the same.

Houses Disinfected.—During the year 145 houses have been fumigated and purified in connection with infectious cases—scarlet fever 132, diphtheria 6, consumption 6, and typhoid 1.

Altrincham Urban District.

Workshops, Workplaces and Laundries.—Visits were made during the year in respect to 225 workshops and workplaces and laundries, and verbal notice was given to the occupiers in respect to 76 offences to limewash the walls and ceilings of the same, and 3 to provide sufficient ventilation.

Bakehouses.—Thirty-four bakehouses were visited twice during the year, and fourteen occupiers from the said number were given notice to limewash the walls and ceilings of the same.

Milkshops and Milkplaces.—Forty-one milkshops and milkplaces were visited twice during the year and were found in clean and satisfactory condition.

Slaughter-houses.—Ninety-eight visits were made to the slaughter-houses during the year, and with some exceptions, they were found in a satisfactory condition, and the limewashing of the same attended to in accordance with the Bye-laws.

Lodging-houses.—Fifty visits were made to the lodging-houses during the year, and they were found in a clean and satisfactory condition, and the limewashing of the walls and ceilings of the same attended to in accordance with the Act.

Canal Boats.—During the year 95 visits were made in respect to 60 canal boats; 53 were found in satisfactory order, and 7 unsatisfactory, including 11 offences. No certificates 2, dirty floors of cabins 2, and paint of cabins defaced 7, all being remedied. The cabins contained living accommodation for 331 persons, and were occupied by 174 persons—males 130, females 34, and 10 children under twelve years of age, and there was no case of infectious disease on board.

ASHTON-UPON-MERSEY

Urban District.

Medical Officer of Health—Dr. C. J. RENSHAW.

Population at Census, 1901—5,563.

Population estimated to middle of 1909—6,500.

Area in Acres—1,622.

Birth-rate per 1,000 living—21.8.

Death-rate per 1,000 living—13.0.

Death-rate from seven principal Zymotic Diseases—1.8.

Deaths under one year per 1,000 births—49.

Population, Births, Deaths, &c.—The population is estimated at 6,500 or 200 more than last year.

There have been from all causes 90 deaths, both of the inhabitants of this neighbourhood and of those belonging here who have died in other districts; that gives a rate of 13 per 1000 persons, and an average of 12 in the 10 years past.

There were only 7 deaths of children under 12 months, as against 17 last year. There were no deaths reported from diarrhoea, and the epidemic of measles—226 cases—not having caused many deaths.

The birth-rate is small, being only 21.8, as against an average of 24 for the past 10 years.

Infectious Diseases.—The infectious diseases notified were : diphtheria, 8 cases; erysipelas, 3 cases; scarlet fever, 8 cases; enteric fever, 3 cases; measles, 226 cases; whooping-cough, 10 cases; roetheln, one case.

It was necessary in April to close two of the schools, St. Mary's and All Saints', owing to the epidemic of measles.

Sewage Disposal and Sewerage.—The work at the drainage beds is progressing, and they will be capable of taking the sewage for the district for very many years when completed.

The ventilation shafts to the sewers are acting very well.

The rain of the past year has had the beneficial effects of washing the sewers, also keeping the dust and flies down, both of which are the cause of much illness.

Ashton-upon-Mersey Urban District.

Dairies, Cowsheds, &c.—The milk supply is of good quality, the cowsheds are inspected and are clean, and the alteration required in one particular shippon, has been attended to.

Water-supply.—The water supply is good.

Housing.—Some of the cottages have been much improved as living places. The property at Garden View is now very much better as the result of alterations carried out during the year.

Twenty-nine plans have been approved by the Council during the past year, for 55 houses. The total number of houses certified for habitation during the year was 44.

Forty-one houses are now in course of erection.

Sanitary Inspection.—The following is a list of sanitary improvements to property carried out during the year :—

| | | |
|-------------------------------|-----|----|
| Privies converted into w.c.'s | ... | 13 |
| Houses re-drained | ... | 4 |
| Stopped-up drains attended to | ... | 4 |
| Other Nuisances | „ | 3 |

Factory and Workshops Act.—All premises coming under this Act remain in a favourable condition, no serious defects having been found.

Slaughter-houses.—The slaughter-houses are also kept in a very satisfactory condition.

HIGHER BEBINGTON

Urban District.

Medical Officer of Health—DR. G. A. KENYON (deceased).

Population at Census, 1901—1,540.

Population estimated to middle of 1909—1,636.

Area in Acres—699.

Birth-rate per 1,000 living—35.4.

Death-rate per 1,000 living—10.4.

Death-rate from seven principal Zymotic Diseases—0.61.

Deaths under one year per 1,000 births—51.

Population, Births, Deaths, &c.—The population of the Higher Bebington Urban District, estimated to the middle of the year 1909, on the basis of the previous decennial increase, is 1636.

The births registered as having occurred in the district during the year number 58, as compared with 48 during the previous year, and 45.6 the annual average of the preceding ten years.

The birth-rate per 1,000 persons living in the district is 35.4, and is a very high birth-rate.

The deaths of persons belonging to the district, including one which occurred in the Workhouse during the year, number 17, as compared with 16 in the previous year and 21.0 the average of the previous ten years.

The death-rate for the year is 10.4 per 1,000 inhabitants, and is a very low death-rate, especially considering that 8 out of the 17 deaths were of persons upward of 65 years of age.

Infant mortality, as measured by the deaths under one year of age to 1,000 births registered, is 51, as compared with 62 in the previous year, and 91 the average of the previous ten years. This also is a very low death-rate.

The causes of death include none from any ordinary infectious disease, but 1 from diarrhœa, 2 from phthisis, 2 from cancer, 1 from pneumonia, 1 from cirrhosis of the liver, and 1 from heart disease.

Infectious Diseases.—Under the Notification of Infectious Diseases Act, there were reported 7 cases of diphtheria, 2 of erysipelas and 5 of scarlet fever. Five of the cases of diphtheria and one

Higher Bebington Urban District.

of erysipelas were removed to hospital. The houses were disinfected and there was no general spread of infection.

Inspections.—The Medical Officer of Health made general inspections of the district in May and November and advised subsequently on various matters in connection with ordinary sanitary work.

Water-supply.—The district is supplied with water from the West Cheshire Waterworks.

Sewerage.—The district is sewered throughout excepting as to a few outlying residences. The sewers are flushed as required.

Refuse Removal.—The removal of excreta is by water-closets. Ashpit refuse is removed by a contractor. Movable receptacles are encouraged and are emptied weekly.

Meat Inspection.—In response to the circular letter of the Local Government Board (M.8) of the 29th October, 1909, it is stated that no arrangements are made by the Council for the inspection of meat in the district beyond those provided for by the Orders of the Local Government Board as to the duties of the Inspector of Nuisances, in accordance with which the Inspector from time to time inspects the slaughter-houses at the time of slaughtering, and examines any carcase, meat, etc., which may be therein.

The Council has been advised, as an additional reason why they should not give their sanction to the opening of the first slaughter-house erected in the district, that it would be impossible to have the animals slaughtered there efficiently inspected, unless a specially qualified inspector were appointed.

The Inspector has, however, made inspections from time to time, but has not found any carcasses tuberculous, so as to be unfit for human food during the year.

There are two slaughter-houses in the district. There is no Inspector with a special certificate for meat inspection.

Adoptive Acts.—The adoption of the Public Health Acts Amendment Act of 1907 has been considered, but has not been effected.

Higher Bebington Urban District.

As regards Part III and its application to the conversion of privies into water-closets, there is, however, not much scope for this, as all the privies have been converted into water-closets except 3 or 4 in large gardens, mostly out of reach of the sewer.

Water-closets alone are now allowed for new houses.

The Infectious Diseases Prevention Act of 1890 was adopted by the Council and came into force on Jan. 1st, 1891.

Bye-laws are in force in the district relating to new streets and buildings, slaughter-houses, etc., and as to regulations with regard to dairies, cow-sheds and milk-shops.

Sewage Disposal.—The sewers deliver into the sewers of the Lower Bebington Urban District by arrangement.

New Buildings, &c.—There has been no new house completed during 1909, nor new street laid out, but a very useful improvement has been effected by widening the road at King's Yard Corner, which was dangerously narrow and in a deep cutting. In the course of this work a series of pig-styes and closets, which were not ornamental, have been removed and replaced by more useful structures at the rear of the cottages. This work has been done by the Council.

Sanitary Inspector's Report.—The Inspector of Nuisances, Mr. Lloyd, reports that during the year 9 complaints have been received and attended to: 21 house premises have been specially inspected, and 71 re-inspections made; 2 orders have been issued for sanitary amendments of houses and premises; 13 houses disinfected after infectious disease; 14 house drains repaired, cleansed, etc.; 4 privies or water-closets repaired; 1 privy converted into a water-closet.

Two old houses have been newly supplied with water; 2 waste pipes connected with drains abolished; 375 ashpits are emptied monthly; 102 dustbins are emptied weekly; 3 accumulations of dung or other animal refuse have been caused to be removed.

One bake-house, 6 dairy premises, 2 milk-shops and 2 slaughter-houses have been duly inspected.

Two cases of overcrowding have been abated.

Factory and Workshops Act.—The bake-house, a joiner's shop and a blacksmith's smithy have been inspected and kept in order.

LOWER BEBINGTON

Urban District.

Medical Officer of Health—DR. G. A. KENYON (deceased).

Population at Census, 1901—8,398.

Population estimated to middle of 1909—11,942.

Area in Acres—1,051.

Birth-rate per 1,000 living—24.8.

Death-rate per 1,000 living—9.8.

Death-rate from seven principal Zymotic Diseases—0.08.

Deaths under one year per 1,000 births—100.

Owing to the death of Dr. Kenyon, Medical Officer for this Urban District, the Annual Report has been prepared by Dr. Vacher, late Medical Officer of Health for the County.

Population, Births, Deaths, &c.—The population of the Lower Bebington Urban District at the middle of 1909, is estimated, on the basis of occupied houses at 11,942, allowing 5.15 inmates per house, the number per house at the last Census.

The population of this Urban District was 5,261 at the Census in 1891, and 8,398 at the Census in 1901. Thus during the decennium 1891-1901 the population increased by 3,137, that is 62 per cent. The estimate of the population made for the middle of the year 1909 is arrived at by multiplying the 2,319 inhabited houses in the district in the middle of 1909 by 5.15, the average number of persons per house. The population of the district in the middle of the year 1909 was therefore 11,942.

During 1909 the number of births registered in the district was 297, and the number of deaths registered in the district was 104. To the latter must be added the deaths of 15 persons belonging to the district who died elsewhere, viz.: 12 in the Workhouse, 1 in the Hospital for infectious diseases, and 1 in a Public Institution in Birkenhead. A death in the Port Sanitary Hospital has to be deducted.

The birth-rate in 1909 was 24.8 per 1,000 living, and the death-rate in 1909 was 9.8 per 1,000 living.

Of the infants born 151 were boys and 146 were girls. Of those who died 30 were infants who had not completed their first year, and 21 were persons 65 years old and upwards.

Lower Bebington Urban District.

The deaths include 1 from whooping-cough, 2 from epidemic influenza, 1 from diarrhœa, 1 from enteritis, 2 from gastritis, 1 from erysipelas, 12 from phthisis, 5 from other tuberculous diseases, 7 from cancer, 6 from bronchitis, 16 from pneumonia, 1 from pleurisy, 3 from premature birth, 9 from heart disease and 2 from accidents.

Infectious Disease.—There were 163 cases of infectious disease notified, viz.:—27 diphtheria (including membranous croup), 11 erysipelas, 123 scarlet fever, and 2 enteric fever. One hundred and forty-eight of these cases were isolated in hospital, viz.:—26 diphtheria, 4 erysipelas, 116 scarlet fever, and 2 enteric fever. Thus 90.79 per cent. of the cases notified were isolated in hospital. The cases not removed were carefully isolated at home. Thorough disinfection was attended to in every case.

All houses where infectious cases occurred were visited, disinfectants were supplied as required, and means were taken to prevent the attendance at school of pupils from infected houses. Insanitary conditions when discovered were removed. As soon as the patients were removed, or had recovered, disinfection of premises, &c., was carried out.

Inspection.—The Medical Officer of Health visited the district from time to time, and advised the District Council and the Inspector on various points of detail.

Public Elementary Schools.—These have been inspected from time to time, and the attention of the Managers has been called to any sanitary shortcomings.

Water-supply.—The district is supplied with good water from deep wells by the West Cheshire Water Company. Though the water is very pure as regards freedom from animal or vegetable matter, it has of late become unduly hard. The Water Company are willing to soften the water if empowered to recover the cost by an addition to the water rate.

Dairies and Cowsheds.—At the close of the year 1909 there were on the register 9 dairies, 15 cowsheds, and 7 milk-shops. There were 215 inspections of these made during the year. On 3 occasions notices were served requiring defects to be removed. Legal proceedings were not needed in any case.

Lower Bebington Urban District.

Factory and Workshops Act.—There were 32 workshops on the register. These were visited monthly. There were defects observed on 13 occasions which were remedied after notice. No prosecutions were registered.

Slaughter-houses.—There are 4 licensed slaughter-houses in the district. These have been inspected regularly, and occupiers have had to keep their premises clean and in order. The licenses are granted annually.

Common Lodging-houses.—There is only one in the district. It is regularly visited and kept clean and in order.

New Houses.—Mr. Corrie, the Surveyor, reports that 31 new houses were erected in the district during the year 1909.

Disinfecting Back Passages.—For some time during summer the back passages were regularly sprayed with a disinfectant solution.

Drain Testing.—The apparatus for testing drains by smoke was in use constantly during the whole year.

Main Drainage.—There were 152 yards of new sewers constructed in 1909 to extend system or replace old sewers.

Sewer Flushing.—Sewer flushing has full attention, the work being done regularly and systematically.

Refuse Removal.—Ashpit refuse is removed at regular intervals, premises being taken in rotation by the District Council's servants. The movable bins in use in the new houses at Port Sunlight are emptied weekly.

Inspector's Report.—Mr. C. J. Westmorland, the Inspector of Nuisances, has made a very careful and satisfactory report. He states that house to house inspection has been made as far as possible. All houses, in respect of which complaints have been received, have also been inspected, and houses in which infectious cases have occurred. His report furnishes details of the many defects discovered and the steps taken to obtain their abatement.

Inspection of Food and Drugs.—Inspection of food and Drugs is undertaken by Mr. Laird, the County Inspector,

Lower Bebington Urban District.

of 23 samples taken during 1909 not one was found to be adulterated.

Caravans.—Since the bye-laws regulating caravans have come in force no caravans have stayed in the district.

Hospital Accommodation.—The district is contributory to the Wirral Joint Hospital Board, having thus excellent accommodation for cases of infectious disease.

SANITARY INSPECTOR'S REPORT.

Inspection of the District.—During the past year a systematic examination of houses in different parts of the district has been made, also houses from which complaints were received or in which infectious disease had occurred. Such inspections resulted in the detection of a large number of nuisances which necessitated the serving of Preliminary Notices either upon the owners or occupiers to abate same or carry out sanitary improvements.

Common Lodging-house.—There is now only one common lodging-house on the register. These premises have always been found in a cleanly state, and at all times found in good order.

This house is visited monthly.

Slaughter-houses.—There are four licensed slaughter-houses in the district, and are situated one in each of the following Wards:—New Ferry Ward, Poolbank Ward, Park Ward, and Bebington Ward.

These licenses are granted for a period of 12 months (3 from 1st January to 31st December, and 1 from 1st April to 31st March), and for private slaughtering only.

During the past year the Health Committee had under consideration the question of providing a public slaughter-house, and instructions were given to the Inspector to ascertain to what extent such a slaughter-house would be used by the butchers in the district. As the report received was considered satisfactory, it was decided that the time was not opportune for the erection of a public slaughter-house.

The walls and ceilings of all slaughter-houses are required by Bye-law to be limewashed four times in each year, viz., March, June, September, and December, or as occasion

Lower Bebbington Urban District.

requires. Five notices have been served requiring slaughter-houses to be limewashed. Two notices have been served for accumulation of manure. Two notices have been served for defective paving in slaughter-house. The removal of offal and garbage from the premises are carried out in a satisfactory manner.

Dairies and Cowsheds.—There are now on the register 11 cow keepers and 16 dairymen and purveyors of milk. Two cow keepers and 2 dairymen have discontinued business during the year, and applications have been received for the registration of one cow keeper and two purveyors of milk.

In all cases of new registrations the premises proposed to be utilised have been visited in order to see that they were suitable for the purpose intended. In one case structural alteration had to be made before the registration could be granted. Seven notices have been served for limewashing of shippens or dairies. Three notices have been served for defective paving in shippens. Two notices have been served for accumulation of manure. One notice has been served for dirty milk vessels. These premises are required by Bye-law to be limewashed twice each year, in April and October, or as occasion requires.

With these exceptions, the dairies and cowsheds have been kept in a clean and satisfactory condition.

Factory and Workshops Act, 1901.—There are at present on the register 32 workshops. During the year 5 new workshops have been registered:—2 boot repairers, 1 cycle repairer, 1 milliner, 1 bakehouse. Two workshops have been closed.

These premises are required by law to be limewashed (or where painted the painting to be washed down with soap and water) every six months.

It has been found necessary to issue preliminary notices in respect to the following:—

| | | |
|---|-----|---|
| Cleansing Walls and Ceilings of Workshops | ... | 7 |
| Dirty Workshop Floors | .. | 2 |
| Defective Paving in Workshops | ... | 1 |
| Fowl W.C. Basin | ... | 2 |
| Factory without W.C. | ... | 1 |

One notice was received from H.M. Inspector of Factories of no W.C. accommodation. This was provided.

Lower Bebington Urban District.

Public Elementary Schools.—There are five public Schools in the district:—Bebington St. Andrew's, New Ferry St. Mark's, New Ferry St. John's, Port Sunlight Church Drive, and Park Road. At different times during the year the Managers of the Schools have been written to calling their attention to the condition of the paving of the school yards, &c.

During the past year all the drains belonging to the Public Schools have been flushed by the Council's own workmen.

In November the Health Committee considered the advisability of disinfecting all the Public Schools at stated periods, viz., during the Summer and Christmas holidays. This was sanctioned by the Council, and the following were disinfected: St. John's, Bebington, Church Drive and Park Road Schools.

The New Ferry Schools were not done owing to the Schools being engaged for various meetings during the holidays.

The Bebington Schools Committee have improved the warming arrangements of the schools. The open fireplaces being done away with, the schools are heated with hot water pipes arranged around the school buildings. The cloakrooms now being heated it allows of the children's clothing, which is taken off, to be dried, should they be caught in the rain on coming to school. The principal feature attached to the new heating arrangement is the more uniform temperature that can be obtained in the schools.

Caravans, Tents, &c.—During the year only one caravan has stayed in the district. Several visits of inspection were made, but on no occasion was any nuisance found. The occupiers of this caravan were provided with water and the use of sanitary conveniences.

Bacteriological Examination of Milk.—During the past year nine samples of milk have been obtained from milk sellers and submitted to Professor Sir R. Boyce at the Liverpool University.

In all cases the samples were found to be free from tuberculosis.

Mortuary.—During the past year three bodies have been brought into the mortuary. Two were bodies of men who had died suddenly; and one was the body of a man who committed suicide on the railway.

BOLLINGTON

Urban District.

Medical Officer of Health — DR. D. W. MAIN.

Population at Census, 1901—5,245.

Population estimated to middle of 1909—5,245.

Area in Acres—1,291.

Birth-rate per 1,000 living—19.8.

Death-rate per 1,000 living—10.6.

Death-rate from seven principal Zymotic Diseases—0.2.

Deaths under one year per 1,000 births—77.

General Features of District.—Bollington comprises 1,291 acres, which lie in the hollow and on the sides of a valley which forms a break in the westerly side of the East Cheshire range of hills. The valley which forms the centre of the district runs roughly east and west, and here the population is densest. Owing to its situation on the westerly side of the range, the district is subject to westerly winds and much rain. The character of the soil and sub-soil varies greatly. Generally speaking it is sandstone and clay, with some coal measures.

The various industries in the village comprise :—Fine cotton spinning and doubling carried on at three mills, cotton weaving at one mill, calico printing at one mill, paper staining also at one mill, and stone quarrying and dressing at various quarries both within and outside the district. Many find employment at other mills outside the district—such as at the Bleach Works just beyond the boundaries, and others at the Fire Clay and Brick Works at Pott Shrigley.

Diseases of the chest and rheumatism are perhaps the most common ailments of the inhabitants.

House Accommodation.—There are 1182 inhabited houses in the district. These are for the most part built of stone and rubble, though brick, and brick and stone are coming into more general use in the newer houses.

The area space about the houses is on the whole satisfactory ; in some few cases however the yards are very confined.

As to internal accommodation most of the older houses are built on the plan of two rooms up and two down.

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This means that many families have not sufficient sleeping room. In the newer houses this defect is being remedied and an additional bedroom is the general rule. There is no doubt that there is a demand for this class of house.

All plans for proposed new buildings must be sent in duplicate to the Surveyor who carefully examines them before passing them on to the Highway Committee. They are then considered by this Committee together with any remarks the Surveyor may have to make on them. Having been passed by the Committee they are sent up to the Council for final ratification. All plans must conform with the building bye-laws.

One new house has been completed during the year, and three are in course of erection.

Population.—It has been customary to take the figures of the last census as being approximately correct, and this number, viz. : 5,245 has been again made the means of calculation for the vital statistics.

Births.—The number of births recorded as having been registered during the year was 104. This is equivalent to an annual birth-rate of 19.8 per 1000 of the estimated population. With the exception of 1905, when the birth-rate was 17.9 per 1000, this is the lowest rate of any of the previous ten years. The birth-rate for 1908 was 23.4 per 1000, and the average birth-rate of the previous ten years was 22.4 per 1000 of the estimated population.

Of the 104 births registered 59 were males and 45 were females.

There was one illegitimate birth, which is equivalent to an illegitimate birth-rate of 9.6 per 1000 births registered. The illegitimate birth-rate for 1908 was 32.5 per 1000 births registered.

Deaths.—During the year the number of deaths registered was 56—two less than in the preceding year. The death-rate for the year is thus 10.6 per 1000 of the estimated population. This is lower than the rate for any of the previous ten years, the average death-rate for this period being one of 13.3 per 1000 of the estimated population living. This fall in the death-rate may be emphasized by taking the figures for the first three years of the last decade and comparing them with those of the last three.

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For each of the first three years the death-rate was 16 per 1000, whilst for 1907 and 1908 it was 11 per 1000, and this year 10.6 per 1000 of the estimated population.

Infant Mortality.—Of the 56 deaths registered this year, eight were those of children under 12 months old. This means that this year the infantile mortality rate is equivalent to one of 76.9 per 1000 children born. Here again, the figures are lower than those of last year and of the previous ten years' average. For the previous year the infantile mortality rate was 89 per 1000 infants born—whilst the average for the previous ten years was 121 per 1000 births registered.

It will be interesting here, too, to compare the returns for the three years at the beginning with those at the end of the ten years.

| Year. | | | | Per 1000 Births Registered. |
|-------------------|----------------------------------|-----|--|--------------------------------|
| In 1899 | the infantile mortality rate was | ... | | 120 |
| 1900 | " " " | ... | | 144 |
| 1901 | " " " | ... | | 144 |
| On the other hand | | | | |
| In 1907 | " " " | .. | | 78 |
| 1908 | " " " | ... | | 89 |
| 1909 | " " " | ... | | 76.9 |

Unfortunately there has not been quite the same steady decline during this period in the infantile mortality rate as there has been in the general death-rate, for in 1904 we had the very high infantile mortality rate of 182 per 1000 births registered.

The Medical Officer of Health remarks :—" The steady lowered infantile mortality of the past few years is, I think, good evidence of the effect of the efforts of your Committee who so carefully considered and dealt with this very important matter some little time ago.

"It will be remembered that amongst other things they made two requests, one to the managers of the various mills, viz. : that all women about to become mothers should not be allowed to work for a prolonged period before the birth of their child, and that they should not be taken on again for a period of at least two months afterwards. The other request was to the Committee of the District Nursing Association. These ladies were asked to help by advice and assistance to poor mothers.

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“I am glad to say that the promises of assistance from these two sources have been loyally kept during the time that has elapsed since they were given.

“One most important, if not the most important, reason for the decline is, I think, the great improvement that has been made in the sanitation of the village since the introduction of the new drainage system some few years ago. Together with this, too, must be taken into account the great attention that has been paid to the emptying and cleansing of the privy middens which are still so numerous in the village.

“Further, it must be remembered that there has not been any long continued spell of drought during the year.”

Infectious Diseases.—Twenty-five cases of scarlet fever have been notified during the year—the first on the 21st January and the last on the 2nd of November, the remainder being pretty evenly distributed through the period intervening. Of these 21 were treated in the Isolation Hospital at Macclesfield at a cost of £162 8s. 4d.

This sum does not include retaining fees, which amounted to £75 13s. 4d.

A special report on the epidemic was made to the Health Committee after a thorough inspection of the defective houses and schools.

Its general purport was that by far the greater number of cases occurred amongst children attending Water Street School. At the school the drains were found to be in a bad condition. Further the rooms and staircases were wanting in efficient cleaning, owing possibly to the fact that the building is in almost constant use day and evening, Sundays included. The school was closed for a period during which time the rooms were thoroughly washed and disinfected, and the drains put in order. A few of the cases came from St. Gregory's School. This school, too, was thoroughly cleansed and disinfected.

The arrangement made with the Macclesfield Borough Council *re* Isolation Hospital provision is still continued, and has been found during this epidemic to be of great assistance. The thanks of the Council are due to their Medical Officer of Health for the speedy manner in which cases notified to him for removal

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are taken away. There has been no death from this or other zymotic diseases during the period under review.

Water-supply.—This is a most important matter, and has been dealt with particularly in the last three Annual Reports.

The district is dependent on the Boreholes at Lowerhouse and Dane Bent, Rainow, and the supply yielded by them has been ample for the needs of the year. This result is to be attributed to two causes.

Firstly, the year just closed has been a very wet one, there have been long continued spells of rain with very few and short intervals of dry weather between. There has never been anything approaching a period of drought during the year.

Secondly, the Water Committee has given the matter its most earnest attention. The efforts of this Committee have chiefly resulted in checking serious leakages in the supply, of which several were found, and a great saving effected, as, for example, the large mills now practically only use in one week the same amount that previously they consumed in one day, a difference of about 10,000 to 12,000 gallons per diem.

The Committee, too, have been able to increase the amount somewhat from the supply yielded at the Dane Bent Borehole. Here a large amount of water had been running away, and some share of this is now saved and added to the supply.

The demand for water is, of course, ever increasing. What was sufficient for the needs of the village before the sewerage system was introduced is, of course, very small compared with the needs of to-day. The Water Committee recognize this and realize also that some time, sooner or later, a period of drought must come. They are anxiously keeping the matter before them.

The quality of the water has been good.

All but about 33 houses are now supplied with water. Those are mostly situated too high and too far up the hillside for a supply from the main.

Sewerage and Drainage.—The main sewer and filter beds have worked satisfactorily during the year, and the effluent has kept up its character for purity.

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The portion of the main sewer mentioned in last year's report as being troublesome through frequent blocking, has been working much better this year. This improvement the Surveyor attributes to the fact that the surface water has been directed into the brook instead of into the sewer as heretofore.

Pollution of Streams.—There have not been any complaints of a serious nature during the year as to this nuisance. The introduction of the drainage system, together with a wet season have had their influence in this matter.

Excrement Disposal.—300 houses are now supplied with water-closets—the remainder still have to rely upon the old privy midden. The Health Committee have done good service in minimising this nuisance. Complaints as to their not being emptied frequently enough have been much fewer, though there is still room for improvement in this respect. The process of emptying and removal from the roadway too has been expedited. The farmers have had their carts much quicker on the ground than heretofore, so that the unsightly and foul-smelling heaps have not been so much in evidence. At the same time this system of allowing all manner of evil-smelling excreta and other refuse to collect for a period, and then stirring it up by throwing it into the yard right under the windows and doors of dwelling houses, whence it is again pitched into barrows and wheeled by the doorways, to be again emptied into the public highway before it is again thrown into the carts is a very bad sanitary practice. Anyone may realize this for himself by following along the tracks left by the barrows. The sooner this system can be done away with the better.

There are still complaints made of slop-water and vegetable refuse being thrown into the middens, though the fixing of notices directing attention against this practice on the doors of the middens has had good effect.

During the year the cost of removal has been raised from 1/3 per ton to 1/8 per ton; notwithstanding this the total cost for the year has been reduced by £2.

House Refuse.—The Council now remove waste materials and house refuse at least twice a month. This is an improvement. There are a good many covered bins now provided for the storage of this refuse. Each house should be provided with one of these bins. They add to the cleanliness and sweetness of the yard.

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Systematic Inspection is now on a better basis than ever before. The Health Committee has gone upon the plan indicated in last year's report. Each Ward is taken in turn and a report given periodically by the Nuisance Inspector as to the condition of the properties he has visited and inspected during the interval.

Emission of Black Smoke from the mill chimneys has, from time to time, engaged the attention of the Committee. The Assistant Nuisance Inspector has instructions to watch this matter carefully and to report upon any cases where he finds a nuisance to exist. There is no doubt that a great improvement has been noticeable since the Council first took the matter up four years ago.

Schools.—The improvements at Bollington Cross School mentioned in last year's report as being in progress have now been completed, and the school is consequently in a much better condition than in previous years. The sanitary arrangements at the different schools have worked completely satisfactorily. Water Street School, which has not adopted the Water Carriage System, will shortly be taken over by the County Council, when it is hoped that that Authority will convert the old pail system, now in vogue, into the newer method.

Sanitary Conveniences at the Mills.—Most of the mills have now the Water Carriage System. The introduction of this system has made the atmosphere in their neighbourhood much sweeter and healthier than was the case before.

Milk-supply.—Milk is supplied from farms situated both within and without the area of Council's jurisdiction, those situate within are regularly inspected by the Nuisance Inspector, and their shippens are found to be clean and regularly limewashed.

Slaughter-houses.—There are three registered slaughter-houses situated in the village. The Inspector regularly visits these each day upon which animals are slaughtered. He reports that they are kept clean and limewashed, and that he has not found any case of tuberculous meat during the year.

BOWDON**Urban District.**

Medical Officer of Health—DR. M. DUGGAN.

Population at Census, 1901—2,788.

Population estimated to middle of 1909—2,860.

Area in Acres—850.

Birth-rate per 1,000 living—11.2.

Death-rate per 1,000 living—12.6.

Death-rate from seven principal Zymotic Diseases—0.

Deaths under one year per 1,000 births—31.

Population, Births, Deaths, &c.—The population of this Urban District, estimated to mid-year 1909, is 2,860.

During the year 1909 there were 32 births in the Bowdon district, being an average of 11.2 per thousand; and 36 deaths—an average per thousand of 12.6; two of these deaths were of residents removed to the Knutsford Workhouse.

In the previous year, 1908, there were 43 births and 27 deaths, and the average number of births during the last 10 years was 38 and the average number of deaths 29. So, for the year just ended we have 6 fewer births and 9 more deaths. Perhaps the cold, wet and sunless year which has just ended might account for the increased death-rate. There was only one death occurring in children under 1 year of age, and 21 deaths in persons over 60 years of age, which is a remarkable average; the large number of deaths in old people may be accounted for by the fact that Bowdon is largely a residential district, and a great many people retire to Bowdon after passing middle age.

Heart disease heads the list in number as to the cause of deaths—there being 8. Seven deaths were registered from lung disease, one of which was from phthisis; this person had not lived long in Bowdon. Proper steps were taken in the latter case—after death—to prevent the disease from spreading, by stoving and disinfecting. It would be better if compulsory notification were adopted in this and other districts for cases of phthisis. A case has died in Viarage Lane this year who, without a doubt, caught the disease through nursing a relation in the North of England eighteen months ago, thus showing how infectious phthisis is. There were no deaths in the district from infectious diseases.

Infectious Disease.—There were 14 cases of infection reported to me during the last 12 months; 2 were diphtheria and 12 scarlet fever. None of these 12 cases seem to have caught it

Bowdon Urban District.

from other cases in the Bowdon District, with two exceptions. One of these was where 4 cases occurred in one house—Evans, in Vicarage Lane. One of these was reported on the 4th of April and the other on the 6th, the latter evidently catching it from the first case reported on the 4th; these were both sent to the Baguley Sanatorium; one was sent back home on the 5th of June, 8 weeks after being sent to Baguley; soon after returning home this case suffered from a discharge from the nose. On July the 4th another case was reported from the same house suffering from scarlet fever, which was at once removed, and then on July the 6th another and remaining child had scarlet fever and was removed to Baguley. These cases are interesting, showing how the infection could be given by No. 1 and No. 3 before they were medically reported; and also showing that even after 8 weeks' expensive stay at Baguley Sanatorium the returned case may develop symptoms after returning home which may infect others. There were two cases at Bowdon College in October during term and they were at once removed to Baguley. Such stringent measures were taken to prevent the spread of the epidemic that no other cases occurred. There were also two cases of scarlet fever at Beechmount one in June and the other in November; the latter was supposed to have caught it from a book used by the first case. The County Council are introducing a system of collecting returns of infectious cases from each district monthly; the results will be tabulated and the tables returned to each Medical Officer, so that he will not only know what infectious disease there is in his own district, but also what is going on in the surrounding districts.

Refuse Removal.—The scavenging of the Bowdon District is greatly improved, no doubt owing to the greater number of ashbins used—272.

The back premises of the cottage property are in good sanitary condition and repair.

Dairies and Cowsheds.—These are being kept in a very much cleaner state than formerly; the milk on sale is now treated on clean and hygienic principles.

Nuisance on Roads.—Attention is called to the nuisance made by tan or moss litter being put down on the road in case of illness; when kept too long, so that it gets saturated and rots and mixed with horse droppings this becomes insanitary. It is suggested that when leave is given by the Inspector for this to be done it is only on the understanding that the tan or moss litter is removed in a week or renewed every week.

BREDBURY AND ROMILEY

Urban District.

Medical Officer of Health—DR. F. CANT.

Population at Census, 1901—7,107.

Population estimated to middle of 1909—9,006.

Area in Acres—3,986.

Birth-rate per 1,000 living—22.

Death rate per 1,000 living—12.2.

Death-rate from seven principal Zymotic Diseases—0.44.

Deaths under one year per 1,000 births—82.

The Physical Features and General Character of the district are hilly farm land, divided into two parts, Bredbury and Romiley, by one of the Pennine Range of hills, Bredbury being on the North side and Romiley on the South side of the hill.

Romiley has, therefore, the advantage of position, and is also situated on a somewhat higher level than its sister village, and is naturally protected from the cold North winds. To these features may probably be traced the usually lower death-rate noticed in Romiley, and also to the fact that there is more small cottage property in Bredbury, with a corresponding population, amongst whom the sickness and death-rate is usually higher. The death-rate for 1909 is 13 in Bredbury and 10 in Romiley per 1,000.

The general condition of the population is a well-to-do industrial one, with a number of small farmers and shopkeepers; also a few residents engaged in business in Manchester and the neighbouring towns of Stockport and Hyde.

The house accommodation is certainly not in excess of the requirements of the working and residential classes, there being only 28 and 23 empty houses in Bredbury and Romiley respectively on the 30th June, 1909. Houses in good repair and new houses are very soon tenanted.

Speaking generally, there is a sufficiency of open space about the houses, and the surroundings are cleanly. There are no offensive trades in the district, but some of the inhabitants complain very much about the smoke from some of the manufacturers' chimneys, and the Council have taken steps to have this nuisance abated, with very little result, however, so far.

Bredbury and Romiley Urban District.

Area and Population.—There have been some changes in area and population since the actual census enumeration. The following figures have, however, been quite recently supplied by the Statistical Superintendent of the General Register Office, Somerset House.

| | Area. | Population. |
|---|-------|-------------|
| Bredbury and Romiley Urban District as constituted 1st April, 1901 ... | 3,726 | 7,107 |
| Lost to Stockport County Borough, 9th Nov., 1901 | 192 | 20 |
| Added from Brinnington Civil Parish, 30th Sept., 1902 | 452 | 98 |
| Total of Urban District as at present constituted | 3,986 | 7,185 |

Births and Deaths.—The births and deaths registered in 1909 as occurring within the district were as follows:—

BIRTHS.

| | |
|-----------------------|-----|
| Bredbury | 138 |
| Romiley | 68 |
| Whole District | 206 |

DEATHS.

| | |
|-----------------------|-----|
| Bredbury | 110 |
| Romiley | 30 |
| Whole District | 140 |

The birth-rate is thus 22 per thousand living, and the death-rate 12.2.

Tuberculosis.—No system of notification is in force in the district, except that with respect to Poor Law cases, under which one case was reported in 1909. This patient was in the Stockport Union Infirmary.

Where deaths occur from phthisis, the premises are disinfected as after other infectious diseases. Any known cases are advised by the Medical Officer of Health as to how to avoid infecting others.

There are no Hospitals for these cases, with the exception of the Workhouse Hospital and the Public Sanatoria, to which,

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however, it is not always easy to get a patient taken in. The phthisis death-rate for 1909 is 0.6, and for all other tubercular diseases 0.7.

Infectious Diseases.—The following were notified during the year:—

| | | Bredbury. | | Romiley. |
|-----------------|-----|-----------|-----|----------|
| Scarlet Fever | ... | 12 | ... | 3 |
| Puerperal Fever | ... | 1 | ... | 1 |
| Erysipelas | ... | 6 | ... | — |
| Typhoid Fever | .. | 1 | ... | 1 |
| Diphtheria | .. | 6 | ... | — |

Total number of cases 31, of which 3 were removed to Hospital for isolation and treatment.

The district has been comparatively free from infectious disease during 1909. A few cases of measles were notified in Bredbury during March and July, but the disease was not widely spread, and soon died out.

Scarlet fever was notified at intervals throughout the year, but the cases appear to have been of a very mild type, and there was not at any time anything approaching an epidemic, the total number being 15, of which 3 were removed to Hospital for isolation. None of the schools have had to be closed for these or any other disease during 1909.

Six cases of erysipelas and six of diphtheria were notified in Bredbury during the year. Enquiries were made into the cause of these, and precautions taken against their spread. They did not appear to be connected with each other in any way, and the cause was not easy to locate, the most likely being the ashpit privies and the manuring of fields in close proximity to the houses. Ashpits found to be faulty have been cleansed, repaired, and disinfected, and the farmers have been warned as to the practice mentioned above with good results.

“Whilst considering infectious diseases, though we have had no cases of small-pox to deal with during 1909, it is evident that an increasing number of children are being allowed to grow up in an unprotected state as regards vaccination. This is due to the ease with which the parents can get exemption, and it appears to me to be taken advantage of by the

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very people who are the most in need of protection, namely, the poorer class. I do not find that the parents are really disbelievers of the benefits of vaccination, but desire to put off the little operation for one reason or another indefinitely. I feel sure that this is a course to be regretted. Probably when cases of small-pox arise there will be a great rush to get vaccinated, and possibly many will fall victims before they can get protected."

The Midwives Act is carefully administered in the district, and cases of puerperal fever are now more commonly notified than formerly, any case with a temperature of 100 degrees within a fortnight of parturition being considered puerperal fever now. Two cases have been notified this year, both ending in perfect recovery.

The Notification of Births Act has not been put in force in the district because there are no Lady Visitors to undertake the duty of visiting each case when notified.

Infant Mortality.—The death-rate of infants under 12 months has again been reduced, and stands at 101 per 1,000 registered births in Bredbury, and 44 per 1,000 in Romiley, whilst for the whole district it equals 82 per 1,000 registered births.

This subject has received attention throughout the year, and small books of instructions have been distributed on the care and feeding of infants.

Water-supply.—This is plentiful to all but a few of the outlying houses, and considerable improvements have been made during the last few years in supplying the higher parts of the district. It would, however, be an advantage if there was sufficient to provide for a more abundant supply, so that the many existing ashpit privies could all be converted into W.C's., and it is hoped that this may be possible in the future.

The water supplied is obtained through the Manchester Waterworks from Woodhead Reservoirs. It is an excellent water, free from pollution, and has no appreciable plumbosolvent action. We have had samples analysed several times prior to this year, and it has always been classed as a first-class drinking water.

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Dairies, &c.--The milk supply of the district is abundant and good, from farms situated in the township. There are no less than 51 milk and dairy farms, and these are visited by the Inspector at least once a quarter. He reports to the Sanitary Committee on the state of cleanliness of these farms and their healthiness, and any defects are soon remedied.

The Inspector reports that, on the whole, the condition of the Dairies, Cowsheds and Milkshops is satisfactory. Some milk is also exported to the neighbouring towns of Hyde and Stockport.

There have been no complaints about the quality of the milk during the year.

Slaughter-houses are all systematically inspected and reported on. There are 7 registered in the district.

Sewerage and Drainage.--The district is now well sewered in all but a few outlying parts. The condition of the sewers and house drains is, with few exceptions, good. The method of purification adopted by the District Council is the Bacteria system and Filtration. It has turned out to be most satisfactory. There are two Sewage Outfall Works, one on the Romiley and one on the Bredbury side of the district. The periodical reports of samples of the effluent taken have always been "good." A few localities still require coupling up to the main systems, and the Council have these in hand at present.

The river and canal are not subject to pollution to any extent, and no action has had to be taken in this respect during the year.

There are 971 W.C's. connected with the Sewage Outfall Works, and conversions are taking place each year. During 1909 45 ashpit privies have been converted into W.C's.

Refuse Removal.--Beyond this there is a system of removal and disposal of excrement from privies and house refuse by the Council's own workmen, who attend to each place as frequently as required, according to its capacity and use. I am pleased to be able to report favourably on this work during 1909.

The Council's men remove the refuse to suitable tips sanctioned by the Council.

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Nuisances.—The Sanitary Inspector attends promptly to any nuisances notified to him, or which he finds out himself on his visits about the district. These have all been duly attended to without any prosecutions being necessary. The few remaining unabated at present are in course of consideration.

There are no lodging-houses nor offensive trades in the district, and suitable Bye-laws are in force in case any such arise.

Schools.—The district is well supplied with good Public Elementary Schools, two of which are new this year, viz., the Bredbury New Council School, in Berrycroft Lane, and Woodley Council School.

The health of the school children has been excellent during the year under review, and there is every prospect of benefit from the many improvements made, as well as from the examinations and recommendations by the new School Medical Officers.

The Medical Officer of Health is in close communication with the teachers, and any outbreak of disease is promptly reported to him. He has visited the schools and examined suspected children, and excluded those from attendance who were found to be suffering from contagious disease, with beneficial results as regards preventing the spread of measles, especially.

The Factory and Workshops Act has been administered in the district throughout the year, and inspections have been made and particulars entered in the books kept for the purpose at the District Council Office of the provisions required by the Act. Reports have been sent and received as to workers in the district and outside, and home-workers have been supervised in connection with infectious diseases, so that no one is allowed to continue with home-work when any disease of an infectious nature exists.

Details as to numbers of work places, &c., and inspections are set out in the proper form attached hereto. The work places, &c., in this district are in a satisfactory condition, and provided with the necessary conveniences. The standard of sufficiency has been fixed at one W.C., 25 up to 100, from 100 to 200 one to 40, and over 200 one to 60.

BROMBOROUGH.**Urban District.**

Medical Officer of Health—DR. G. A. KENYON (Deceased).

Population at Census, 1901—1,891.

Population estimated to middle of 1909—2,075.

Area in Acres—1,678.

Birth-rate per 1,000 living—21.2.

Death-rate per 1,000 living—11.56.

Death-rate from seven principal Zymotic Diseases—.9.

Deaths under one year per 1,000 births—45.

Population, Births, Deaths, &c.—The Population of the Bromborough Urban District, estimated to the middle of the year 1909, is 2,075.

The births registered during the year as having occurred in the district were 44, which is at the rate of 21.2 per 1000 persons living in the district as compared with 23.2 the annual average of the previous ten years.

The births during 1908 were 34. In 1906 they were 57, the highest number during the decade.

The deaths of persons belonging to the district including one that occurred in the workhouse, were 24, and the death-rate is 11.56 per 1000 persons living in the district, as compared with 11.1 the annual average for the previous ten years. This is a low death-rate.

The deaths under one year of age, to 1,000 births registered during the year, is 45, a very low rate. The average for the preceding ten years is 114.

The causes of death include 1 from typhoid fever, 1 from diarrhoea, 1 from phthisis, 2 from cancer, 3 from bronchitis, 1 from pneumonia, 7 from heart diseases, and 8 from all other causes. There was no death from notifiable infectious disease. Eight of the deaths were over 65 years of age, and only 2 under one year of age, and these, from bronchitis or pneumonia.

Infectious Diseases.—Under the Notification Act were reported, 3 cases of erysipelas, 10 of scarlet fever, and 4 of typhoid fever. Six of the cases of scarlet fever and two of typhoid fever were removed to hospital. The cases were duly investigated, and proper attention given to disinfection.

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There was no case of phthisis notified.

Inspections.—The Medical Officer of Health made inspections of the district in June and December, and advised on various matters in connection with ordinary sanitary work, afterwards visiting the schools, cottage property, milk farms, dairy premises, bakehouses, &c. The general condition of the district is very satisfactory.

Water-supply.—The district continues to be supplied with water as described in previous reports, namely, Pool Works Village from the proprietors' own waterworks, and the rest of the district from the mains of the West Cheshire Water Company. In both cases the water is derived from deep wells. Every house in the district is supplied with water from one or other of these sources.

Adoptive Acts.—Part III. of the Public Health Acts Amendment Act, 1907, as relating to the conversion of privies into water-closets, has been adopted by the Council, but no occasion has yet arisen for putting the powers thus conferred into operation. A large proportion of the privies in the district have been converted into water-closets. Water-closets are universal at Pool Works Village.

Meat Inspection.—The Inspector visits the slaughter-house when animals are being slaughtered, but has not had occasion to condemn any carcasses during 1909. There is no Inspector with a special meat inspection certificate in the district, but the Inspector holds the Certificate of the Sanitary Institute, in the course of the examination for which he was tested in meat inspection.

Refuse Removal.—The Council undertake the removal of house refuse at short intervals, every week from ashbins, and from ashpits and privies, monthly.

Sewerage and Sewage Disposal.—The district is well provided with sewers, which are in good order, well ventilated, and flushed regularly. The sewage is passed through septic tanks, and over filter beds; except where delivered into tidal waters, as at Pool Works, and the Magazines. A new sewer has been put in, from the newly erected Mersey Chemical Works, to low-water mark, in the River Mersey.

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Sanitary Inspector's Report.—The Inspector, Mr. Howard, reports, that during the year two complaints were received and remedied ; 390 houses have been specially inspected, and 336 re-inspections made : two notices were served for sanitary amendments, and have been complied with ; 14 houses were disinfected after illness of an infectious nature. In five cases drains, water-closets, etc., were cleansed or repaired ; one privy has been converted into a water-closet.

Three new houses have been erected during the year, 4 bakehouses, 7 dairy premises, and 1 slaughter-house, have been regularly inspected.

The sanitary arrangements at the Schools are inspected monthly.

Factory and Workshops Act.—Besides the 4 bakehouses already mentioned, there are 8 other workshops on the register, which are duly inspected and kept in order namely—2 laundries, 1 saddler and shoe repairer, 1 blacksmith, 2 joiners, 1 plumber, 1 painter.

The drainage and sanitary arrangements at the extension Pool-works are also under inspection, under the Factory Act. 646 persons are employed here, of which 46 are women and girls. These sanitary arrangements are inspected six times during the year, and are always found in a very satisfactory condition.

BUGLAWTON

Urban District.

Medical Officer of Health—DR. P. M. DAVIDSON.

Population at Census, 1901—1,452.

Population estimated to middle of 1909—1,452.

Area in Acres—2,911.

Birth-rate per 1,000 living—28.2.

Death-rate per 1,000 living—18.5.

Death-rate from seven principal Zymotic Diseases—1.37.

Deaths under one year per 1,000 births—97.

Population, Births and Deaths.—The population of this Urban District is assumed to have remained stationary since the Census of 1901.

Buglawton Urban District.

Forty-one births and 27 deaths were registered, showing a natural increase of the population of 14. Of the births, 16 were males and 25 females, and the birth-rate was 28.2 against 24.7 last year, and an average of 29.9 for the previous ten years. There were three illegitimate births, giving a rate of 2.06.

Of the deaths 12 were males and 15 females, and the rate of mortality was 18.5 against 13.7 last year, and an average of 14.6 for the previous ten years. There were four deaths of children under one year of age, giving a rate per 1,000 of the births of 97, compared with 166 last year, and an average of 116 for the previous ten years.

The death-rate from zymotic disease and that of children under one year of age from all causes is low, and compares favourably with the average of the previous ten years and with that of the country generally. The general death-rate, however, is exceedingly high, but in districts with a small population this is liable to happen occasionally without having much significance, as two or three deaths from any accidental circumstance raises the death-rate considerably, and in order to ascertain the state of such a district in this respect, it is necessary to have regard to the average rate for the previous ten years, which will be found to be quite satisfactory (14.6).

Infectious Disease.—Three cases of infectious disease were notified, viz., 1 of typhoid fever, 1 of diphtheria, and 1 of erysipelas. There were two deaths from this class of disease, viz., from measles, giving a rate of 1.3 against 2.1 last year. In addition to the notifiable disease there were a great many cases of influenza and measles and a few of summer diarrhœa. There was one death from consumption of the lungs, giving a rate of 0.6, and three from other forms of tubercular disease.

The diphtheria case occurred in a house in Timbersbrook, but was infected when on a visit outside the district. It was removed to the Isolation Hospital.

The typhoid case occurred in Havannah Street, and was also sent to the Isolation Hospital, and there was not anything in connection with the sanitary condition of the house or water-supply to account for its occurrence.

There was an extensive epidemic of measles early in the year, but of short duration, and, notwithstanding there were two deaths of very young children, the type of the disease was comparatively mild.

Buglawton Urban District.

Influenza was very prevalent, if not epidemic, in the beginning of the year, and prevalent more than once after, and was directly accountable for two deaths.

All the houses where notifiable diseases occurred were thoroughly disinfected.

Sewerage.—The sewerage of the village was completed early in the year, and the sewage is now treated at the Congleton Outfall Works. There are still a good many houses that have not been connected, but, perhaps as much has already been done as might be expected in the time, and it is hoped that the defaulting property owners will have the necessary connections made without much further delay, and render it unnecessary to take any steps in the matter.

Refuse Disposal.—The ashpits and privies were kept in a fairly good state, but it is not pretended that these places are satisfactory or can ever be made so, only this is probably hardly the time when the trade of the district is at such a low ebb, and the value of cottage property so little, to urge such a large expenditure as the adoption of either the pail or water-closet system would involve.

Dairies and Cowsheds.—Under the Dairy and Cowsheds Order, 71 premises were inspected and three notices were served, one to remove three cesspools and two in respect of repairs required to roofs of sheds, and all were attended to.

Factory and Workshops Act.—Under the Factory and Workshops Act, 11 workshops, including 1 bakehouse, were inspected, and one notice was served to remove an unsuitably situated ashpit, and this was removed before the end of the year.

Sanitary Inspection.—The Sanitary Inspector reports that he inspected 10 workshops, 1 bakehouse, 71 dairies and cowsheds, and made 90 other sanitary inspections, and served 38 notices, that 9 streets were sewered, 14 ashpits and privy closets were converted to pail closets, making 20 pail closets in use in the district, and that 3 pail closets were converted to water-closets. He also reports that 52 premises in the village have still to be connected to the main sewer.

The Medical Officer visited the whole district in the course of the year, and parts of it several times.

CHEADLE AND GATLEY

Urban District.

Medical Officer of Health—DR. J. H. GODSON.

Population at Census, 1901—7,916.

Population estimated to middle of 1909—10,100 (including Institutions).

Area in Acres—5,086.

Birth-rate per 1,000 living—20.38.

Death-rate per 1,000 living—10.49.

Death-rate from seven principal Zymotic Diseases—0.43.

Deaths under one year per 1,000 births—69.

This Urban District was constituted by a Local Government Board Order which came into force in August, 1886: it was formed by uniting Stockport Etchells with part of Cheadle. The area of these two portions was 5,812 acres.

By the Local Government Order, No. P. 1711, which was confirmed by the Local Government Board Provisional Orders Confirmation Act, 1901, and came into operation on Nov. 9th, 1901, part of the district was incorporated into the County Borough of Stockport: the area of the district was reduced by 722 acres, and the population (Census 1901) was reduced by 2,904.

The area of the district since the portion was taken off is 5,090 acres. It is divided into four wards, viz.: Cheadle, Gatley, Cheadle Hulme North and Cheadle Hulme South Ward. The district is mainly residential and agricultural. The subsoil is clay and gravel. There are two bleach and dye works, and two public steam laundries. They are all well constructed and the health of the operatives good. There are in Cheadle Hulme and Adswold a few brick-making yards, and one has been recently opened in Gatley. There are three Public Institutions in the district, viz.: The Royal Lunatic Asylum, The Barnes Convalescent Hospital (a branch of the Manchester Royal Infirmary), and the Warehousemen and Clerks' Orphan Schools; these are treated as separate localities in this report.

New Buildings.—During the year there has been a decrease in the number of new houses built and occupied, as compared with the previous year. They were mostly small villas and semi-detached houses, and situated in Cheadle Hulme, and there has been an increase in the number of

Cheadle and Gatley Urban District.

houses to let, especially in the cottage property in Cheadle, owing to the exodus of working people following on the completion of the new railway that has been made between Manchester and Wilmslow.

Population, Births, Deaths, &c.—The population of the district which was left after a portion had been incorporated in the County Borough of Stockport, and in which there was a population of about 2,904 persons, was (Census 1901) including institutions 7,820. The population, excluding institutions (Royal Asylum 474, Barnes Convalescent Hospital 147, Warehousemen and Clerks' Schools 250—825), was 6,949.

The population estimated to the middle of June, 1909, arrived at by taking the increase due to the excess of the number of births over the number of deaths, the number of new houses built and occupied during the twelve months, allowing about 4.5 persons per house—and this year some allowance has been made for the number of unoccupied, including institutions, 10,100, and excluding institutions (Royal Lunatic Asylum 503, Barnes Convalescent Hospital 157, Warehousemen and Clerks' Schools 265—925), 9,175.

The death-rate for the year 1909 for the total number of deaths registered in the district during the year per 1,000 living per annum, estimated population 10,100—10.49.

The death-rate for the district proper, excluding institutions, per 1,000 living per annum, for the year 1909, estimated population 9,175—7.63.

The birth-rate for the year 1909, per 1,000 living, per annum (estimated population 9,175)—20.38.

Deaths under one year of age per 1,000 births registered were 69.4.

Zymotic Death-rate.—Five deaths were registered as due to zymotic disease, including epidemic influenza, viz., 4 from whooping-cough and 1 from influenza, as compared with seven in the previous year. No deaths were registered as due to diarrhoea, nor was there a fatal case among those sent to the Baguley Sanatorium.

The zymotic death-rate per 1,000 persons living per annum, including influenza—0.54, and excluding influenza—0.43, as compared with in 1908—0.67 (including influenza

Cheadle and Gatley Urban District.

and summer diarrhoea), and 0.1 (excluding influenza and summer diarrhoea).

Phthisis and other Tubercular Diseases.—Nine deaths were registered as due to phthisis and other tubercular diseases, as compared with 12 in 1908, and 14 in 1907, of these nine deaths 3 occurred at the Public Institutions in the district, viz., 2 at the Royal Lunatic Asylum and 1 at the Barnes Convalescent Hospital. The general death-rate for the year per 1,000 living per annum—0.98, and for the district proper per 1,000 living—0.65, as compared with in 1908 for the district proper—0.56. As remarked in previous annual reports, this death-rate would be much lower if patients did not come out of the neighbouring towns in the last stages of the disease to reside here, with a hope of receiving benefit from a purer atmosphere. In December, 1908, an order was received from the Local Government Board which made it compulsory for all Poor Law District Medical Officers after January, 1909, to notify all cases of pulmonary tuberculosis in cases of poor persons upon whom they are in medical attendance according to their agreement with their Boards of Guardians, to the Medical Officer of Health for the area in which the residence of the poor person is situate. During the year no notifications under this order have been received.

Infant Mortality.—Thirteen deaths were registered of children under one year of age; of these 7 were children under one month old. The principal causes of death were whooping-cough (in 3 cases), and premature birth (in 5 cases); besides these 2 children only survived their birth a few hours. There were no deaths registered as due to enteritis or summer diarrhoea. One inquest was held on a prematurely born child.

In April, 1907, a circular was issued by the County Medical Officer of Health, in which certain recommendations were formulated so as to try and prevent excessive infant mortality. A copy of the circular was printed in the Annual Report for 1907, and its recommendations are being carried out either by the Council or the various district visitors and parish nurses.

Midwives Act.—Although there are two midwives in the district on the register they do not practice, and only a few cases are attended by midwives from the neighbouring districts, the majority of cases, in fact nearly all the cases, are attended by medical men.

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Early Notification of Births Act, 1907.—This Act has not been adopted. When the Council discussed whether they should adopt the Act or not, it was decided not to, as most of the cases are attended by medical men, and in those cases which are not, and where any advice is necessary, it was found that the various parish nurses and district visitors had taken the matter in hand. So far this arrangement has worked well.

Inquests.—Four inquests were held in the district during the year, as compared with 9 in 1908 and 8 in 1907. Of these 4 two were patients in one of the Public Institutions.

Infectious Disease.—During the year 36 cases of infectious disease were notified, including 7 at the Warehousemen and Clerks' Schools and 4 at the Barnes Convalescent Hospital. In the district proper 25 cases were notified, as compared with 41 in 1908.

The number of cases of each disease notified in the district proper were as follows:—

| | | | | |
|---------------------------------|-----|-----|-----|----|
| Scarlet Fever | ... | ... | ... | 20 |
| Diphtheria and Membranous Croup | | | ... | 2 |
| Enteric Fever | ... | ... | ... | 1 |
| Erysipelas | ... | .. | ... | 2 |

At the Barnes Convalescent Hospital 2 cases of erysipelas, 1 case of scarlet fever, and 1 case of puerperal fever were notified, as compared with 1 case of scarlet fever in 1908.

At the Royal Lunatic Asylum no cases were notified, as compared with one case in the previous year.

At the Warehousemen and Clerks' Schools 6 cases of scarlet fever and 1 case of erysipelas were notified, as compared with 23 cases of scarlet fever in the previous year.

Bacteriological Examinations.—Arrangements have been made with Prof. Delépine, of the Victoria University Public Health Laboratory, for having material from doubtful or suspected cases of enteric fever and diphtheria examined bacteriologically. Although fewer specimens were sent than in the previous year, this means of confirming the diagnosis has proved very useful, especially in doubtful cases. Six

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specimens were sent, as compared with 8 in 1908 and 6 in 1907, one of blood from a suspected case of typhoid fever for the Widal reaction, and 5 swabs from suspected cases of diphtheria. The results are set out in the following table:—

| | | | | | | |
|---------------|-----|----------|---|-----|----------|---|
| Enteric Fever | ... | Positive | 0 | ... | Negative | 1 |
| Diphtheria | ... | „ | 0 | ... | „ | 5 |

Measles, chicken-pox and whooping-cough have all been at times during the year prevalent in the district, and the infant departments of two of the Elementary Day Schools were closed—one on account of whooping-cough and the other on account of measles.

Vaccination.—Although Dr. Godson has not been able to get the exact number of children in the district successfully vaccinated, he is informed that owing to the recent Order there has been a great falling off, and a great increase in the number of conscientious objections sent in.

Scarlet Fever.—Twenty-seven cases notified, as compared with 49 in 1908 and 19 in 1907. Of these 27 cases, 20 occurred in the district proper, 6 at the Warehousemen and Clerks' Schools, and 1 at the Barnes Convalescent Hospital. Eleven cases of those which belong to the district proper occurred in Cheadle, 3 in Gatley, and 6 in Cheadle Hulme. Of the Cheadle cases: In February 3 cases occurred in different houses, but in the same neighbourhood and about the same time. Although very careful inquiries were made it was not possible to discover any common source of infection—such as milk, or being in the same class at school. All possible precautions were taken to prevent any further spread of the disease, and in this our efforts were successful.

Six cases occurred in two families which were related: one family became infected from the other before the nature of the disease was fully recognised. In one case the patient most probably contracted the disease outside the district when attending one of the large public schools. The remaining case was an isolated one, and requires no special comment.

Of the cases in Gatley, two occurred in one family, and were of a very mild type; the third case was an isolated one. In neither instance could the medical gentleman in attendance say as to how the patients had contracted the disease.

Cheadle and Gtätley Urban District.

In Cheadle Hulme 4 cases occurred in two families, and in neither instance could the exact origin of the infection be ascertained. In one case the patient was thought to have contracted the disease outside the district, and in the other from a case that had been notified from one of the Public Institutions.

Return Cases.—No cases were returned to Hospital for further treatment, nor were any cases detained for any considerable time owing to complications.

At the Barnes Convalescent Hospital one case was notified and sent to the Monsall Fever Hospital.

At the Royal Asylum no cases were notified.

At the Warehousemen and Clerks' Schools 6 cases were notified, 1 in July and 5 in November. The Medical Officer of the Institution was unable to trace the source of infection in either instance. Owing to the very thorough precautions taken the disease was prevented from spreading. The first cases reported were sent to Baguley Sanatorium, and the remainder were treated in their own Sanatorium. Eleven cases were sent to the Baguley Sanatorium, eight from the district proper, and three from the Warehousemen and Clerks' Schools.

Enteric Fever.—One case was notified, as compared with three in the previous year. It occurred at the beginning of the year, and the patient was thought to have contracted the disease while outside the district on a visit.

One specimen of blood was sent to be examined for the widal reaction, and the result was negative.

Diphtheria and Membranous Croup.—Two cases were notified, as compared with 8 in 1908. One case occurred in Stockport Etchells, and the other in Cheadle Hulme.

On visiting the house in Cheadle Hulme where the case had occurred, complaints were made as to the state of the drains about the house and the smell arising from them. This nuisance has been abated.

The case in Stockport Etchells was of a mild type, and it was impossible for the medical gentleman in attendance to say how the patient had contracted the disease.

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One case was sent to the Baguley Sanatorium.

Five swabs were sent for bacteriological examination, and all gave a negative result, although in one case the patient had undoubted diphtheria, which the subsequent illness proved.

Antitoxin.—In the beginning of the year 1906 the Council instructed Dr. Godson to keep a supply of antitoxin, to be used in necessitous cases. It has proved extremely useful, and in one instance was no doubt the means of saving a patient's life.

Puerperal Fever.—No cases were notified in the district proper, as compared with two in 1908, but one case was notified at the end of the year from the Barnes Convalescent Hospital. It was a case of puerperal sapræmia, and was immediately removed to Monsall Fever Hospital.

Erysipelas.—Five cases in all were notified, as compared with 4 in the previous year, and of these 2 occurred at the Barnes Convalescent Hospital and one at the Warehousemen and Clerks' School. They were nearly all cases of facial erysipelas, and of a very mild type. The cases at the Barnes Convalescent Hospital were sent to the Monsall Fever Hospital.

Measles.—This disease is not notifiable. In March several cases were reported to me from the Cheadle Heath end of the district; they occurred mostly among the young children attending the infant department of the Cheadle Heath Day Schools. As the disease was then so prevalent in the surrounding districts, it was almost impossible to ascertain how the first cases arose. The attendance at the above-mentioned school was very seriously affected, but not bad enough to close the school. In April the disease was very prevalent all over the district, but still confined mostly to the infants attending the various Day Schools. In May and June the outbreak seemed to subside a little, but in July it broke out again amongst the children attending the infant department of the Cheadle National School. The attendance became so bad, and the disease seemed to be spreading so greatly, that the Council closed the schools for three weeks. When the schools were opened after the Summer Holidays—having been closed in all for about six weeks—the attendance was up to the average, and no child absent as suffering from the disease. Since then the district has been very free from the disease.

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In this outbreak it was very noticeable how the disease only affected the children attending the various infant departments of the day schools, and that although children from affected houses who were over 8 years of age and had had measles went on attending school, the disease never spread to the mixed departments of the schools, nor was the attendance at all interfered with. Subjoined is a copy of a Special Report on the closing of the Infant Department of the Cheadle National Schools:—

Special Report on closing the Infant Department of the
Cheadle National Schools on account of an epidemic
of measles.

“Towards the end of May the first few cases of measles were reported among the children attending the above-named school, and during the month of June the attendance gradually became worse and worse, so that at the end of the month only 36 to 34 children out of 62 on the books were present. As there seemed a likelihood of the disease spreading to the mixed school, and as the attendance was so small, I advised your Council to ask the Managers to close the schools for 3 weeks. The attendance in the mixed school was never affected; only a very few children were absent.

When the Infant Department was re-opened after the holidays, having been closed for about 6 weeks, only a very few children were absent, but none on account of measles.”

Chicken-pox.—In the last quarter of this year this disease was very prevalent, especially among the children attending the infant departments of the Cheadle Council Schools and the Gatley Day Schools. Although the attendance at these schools was reduced nearly 50 per cent., there was no reason for advising the Council to close the schools. The disease was of a very mild type.

Whooping-cough.—In April several cases of whooping-cough were reported to me from Gatley. The attendance in the infant department of the Gatley Day Schools was reduced to below 50 per cent., and as the disease was of rather a severe type, the Council closed the schools for 4 weeks. When the school re-opened several children were still away suffering from the disease. Four deaths were registered as due to the disease and its complications.

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Appended is a copy of the Special Report made on the closing of the Infant Department of the Gatley Day Schools:—

“Special Report on closing the Infant Department of the Gatley Day Schools on account of an outbreak of whooping-cough.

During April several cases of whooping-cough were reported to me among the children attending the Infant Department of the Gatley Day Schools. The disease was of rather a severe type, and during April the attendance was reduced to under 50 per cent., and as several children came from a distance, and only out of 23 on the books 11 were present, I advised your Council to close the school for 4 weeks from May 3rd. The school was re-opened on the 7th of June, and 17 were present, and for 3 weeks no fresh cases were reported. Since then the disease has completely died out. The attendance in the mixed school was never materially affected, only the infant department, and I think that closing the infant department in a very great measure prevented the mixed school from being affected.”

Mumps.—A few cases were reported.

Summer Diarrhœa.—This disease was never prevalent, owing, no doubt, to the wet and cold summer. No deaths were registered as due to either diarrhœa or enteritis.

Influenza.—At the beginning of the year it was rather prevalent. One death was registered as due to influenza and its complications.

Pulmonary Tuberculosis Notification Order.—No notifications were received under this new Order during the year.

Isolation Hospital Accommodation.—In 1903 the Council made arrangements with the Withington Urban District Council (which has now been incorporated into the City of Manchester) for admission of cases of scarlet fever, enteric fever, and diphtheria into their Baguley Sanatorium. Three beds were retained, which so far have been quite sufficient for the needs of the district. For cases of small-pox the Council has, jointly with the Heaton Norris Urban District Council, erected a temporary Iron Hospital of eight beds on

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the vacant land near our sewage outfall works. Although quite ready for the reception of patients, it has never as yet been used.

The Barnes Convalescent Hospital send all their cases of infectious disease to one of the fever hospitals belonging to the Manchester Corporation.

The Royal Lunatic Asylum, if a case should arise, it is generally isolated in one of their detached houses or sent to the Baguley Sanatorium.

The Warehousemen and Clerks' School use their own Sanatorium for cases of infectious disease, as well as sending a few cases to the Baguley Sanatorium.

Twelve cases were in all sent to the Baguley Sanatorium, nine from the district proper and three from the Warehousemen and Clerks' Schools.

Water-supply.—The water is supplied by the Stockport Corporation, and is sufficient for the needs of the district. There was no curtailment of the supply during the year, and very few complaints as to its discolouration.

The main has been extended in Stockport Etchells. There are only a very few houses now supplied from wells.

Sewage Outfall Works.—These continue to work very satisfactorily. Whenever samples have been taken by the Inspector of the Mersey and Irwell Joint Committee for analysis they have been reported as very good.

When the Sewage Outfall Works were first opened the sewage was treated with a solution of "Alumino Ferric," and then in settling tanks, and then passed through filters, consisting of sand, gravel, and polarite. The sewage is not treated chemically, but allowed to settle in open tanks, and then the effluent is passed on to the land. There are still $14\frac{1}{2}$ acres unused, which have been levelled up and used at times for land filtration.

The sewage system, although the original scheme has long been completed, has been extended in 1905, 1906, and 1907, and this year a length of about 800 yards in Moss Lane has been added it joined two ends together.

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In Adswood, where the sewer has not been carried, several houses are drained into septic tanks, which consists of an ærobie and an anerobic tank. This arrangement with a little care continues to work well. As a large public institution is going to be built in this part of the district, a scheme is being drawn up by the Surveyor for the better drainage of this area.

Disposal of Refuse.—The work is done under the personal supervision of the Inspector, and the scheme he has drawn up works very well. Very few complaints were received during the year.

Owing to the abuse and constant annoyance caused by persons throwing garden and vegetable refuse into the ashpit, your Council, in 1908, ordered that the following notice be posted on the door of every ashpit (wet or dry) in the district:—

NOTICE IS HEREBY GIVEN

That on and after this date the Council will only remove ashes and legitimate house refuse placed in this ashpit, and occupiers of premises in the district are requested not to place any garden, trade, or vegetable refuse in such ashpit.

By Order.

Dairies and Cowsheds.—There are 42 dairies, cowsheds and milkshops in the district. They have all been regularly visited. They are, on the whole, cleanly kept, and the animals well cared for. Only in one instance was it necessary to tell the owner about limewashing.

Two old cowsheds have been demolished and replaced by two large new cowsheds. One old cowshed has been altered and better lighted and ventilated. Four separate cowsheds in one building have been made into one, providing better lighting and ventilation.

In 1903 the Inspector drew up a report on the number of cowsheds, the lighting, ventilation, and cubic space per cow in each cowshed in the district. From this report it can be seen that a great many required improvements and alterations have been made. In December, 1907, he was instructed to draw up another report on the lighting and the number of cows in each cowshed in the district, and in September last he was again instructed to draw up another report on the lighting, ventilation,

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and cubic space per cow in each cowshed. Comparing the reports of 1904 and 1909 from the subjoined table, it will be seen that there has been a great improvement in the cubic space per cow. Whereas in 1904 there were 12 cowsheds having under 400 cubic feet per cow, in 1909 there were only 3, and these will be either altered or replaced by new ones during the coming summer.

COWSHEDS IN DISTRICT AND THE CUBIC SPACE PER COW AS
SHEWN BY SPECIAL REPORT MADE 1904 AND 1909.

| 1904. | | | | 1909. | | | |
|----------------------|---------|---------|---------------------|----------------------|---------|---------|---------------------|
| <i>Under</i> 400. | 400-500 | 500-600 | <i>Over</i> 600. | <i>Under</i> 400. | 400-500 | 500-600 | <i>Over</i> 600. |
| 12 | 16 | 13 | 35 | 3 | 14 | 23 | 40 |

In all cases where cowsheds are under 400 cubic feet per cow alterations are in hand or new cowsheds are to be built during the summer months.

Food and Drugs Act.—No samples were taken by the Inspector for this district, as on several occasions when going to take samples he ascertained that the County Council Inspector had just taken them of the same articles. The County Council Inspector has taken 10 samples of articles of food sold in the district, and the Analyst reported them as pure.

Pollution of Rivers and Streams.—No complaints were received as to the condition or the stench arising from any of the brooks or streams in the district.

Slaughter-houses.—At the end of the year 1907 the Council decided that all the slaughter-houses in the district should be licensed. This resolution was carried out, and licenses granted at the beginning of 1908. There are 6 licensed slaughter-houses in the district; they have all been regularly visited from time to time. They are all reported as clean and well kept. No plans were presented during the year for new slaughter-houses. Most of the meat sold in the district comes from the Manchester Corporation Abattoirs, and only a little is slaughtered in the district.

Unhealthy Houses and Overcrowding.—No houses have been closed as unfit for human habitation, nor were any

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eases of overcrowding reported, although constant inquiries were made to prevent it if possible.

New Houses.—Fifty-two new houses were built and occupied during the year, as compared with 62 in 1908 and 51 in 1907. They have all complied with the requirements of the Council's bye-laws. They are mostly villas and small semi-detached houses.

Cheadle Hulme is growing rapidly, and several of the old cottages are too dilapidated for human habitation. The want of suitable cottages for the working class is becoming more acute each year.

Factory and Workshops Act.—This Act came into force in 1902, and requires the Medical Officer of Health to report specifically on the administration of the Act in the workshops and workplaces in the district.

There are 53 workshops on the register, as compared with 51 in the previous year. They include bleach and dyeworks 2, brick-making yards 4, builders 8, bakehouses 12, laundries 2, other workshops 25.

The chief workshop industries are:—bleaching and dyeing, hand-loom silk weaving, and brickmaking.

The workshops are all clean, the air space per head well above the limit required by the Act, ventilation and lighting good. They have all been regularly inspected.

The general sanitary condition of the bakehouses was good. No complaints were either received or had to be made as regards lime-washing or other defects. There are no underground bakehouses.

One list of home workers was received once during the year representing one employer and ten outworkers. Three addresses of outworkers were received from other Councils, and 40 inspections of outworkers' premises were made. The outwork, as in previous years, was in all cases done in connection with wearing apparel. The outworkers' premises were clean, airy, and well lighted. No sanitary defects were reported to the Council by H.M. Inspector of Factories, and no infringements were reported by the Council to H.M. Inspector of Factories.

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Offensive Trades.—None, as far as is known, were carried on in the district.

General.—The sanitary condition of the district continues to improve, and the number of nuisances reported have decreased during the year, especially those in connection with the removal of house refuse.

The question of how to dispose of the house refuse will have to be dealt with at an early date by the Council, as the pits are nearly all filled up which are suitable for the purpose and not too near to any dwelling-houses.

The necessity of having some more effective means of disinfection after cases of infectious disease, including tuberculosis, increases each year as the district becomes more populous, and the Council should give the matter careful consideration, as it would be a very serious matter if an epidemic should break out and there were no efficient means of disinfection.

Cemetery.—This was formally opened in 1903, and the Church of England portion was consecrated in June of that year. It has since been used as the chief burial ground in the district. During the year there were 81 interments, as compared with 97 in 1908 and 77 in 1907. In 1909, 21 were residents and 60 non-residents, as compared with 40 residents and 57 non-residents in 1908.

The only other burial ground in the district which is in general use is the Cheadle Hulme Churchyard. The others now are only used occasionally for interments.

COMPSTALL

Urban District.

Medical Officer of Health—DR. C. H. HIBBERT.

Population at Census, 1901—875.

Population estimated to middle of 1909—890.

Area in Acres—903.

Birth-rate per 1,000 living—24.0.

Death-rate per 1,000 living—14.6.

Death-rate from seven principal Zymotic Diseases—1.12.

Deaths under one year per 1,000 births—45.

By an order of the County Council of Chester, dated the 16th May, 1901, duly confirmed by the Local Government Board, the Parish of Compstall, which was formerly part of Stockport Rural District Council, was constituted an Urban District, called the Compstall Urban District, as from 31st March, 1902.

General Features.—The district lies on the south and south-easterly portion of the Werneth Hills, in the north-western portion of the County of Chester, and separated from the Ludworth Division of the Glossop Rural District, in the County of Derby, by the River Etherow.

It is bounded on the north by the Borough of Hyde; on the west and south-west by Romiley and Bredbury Urban District; and on the east and south-east by the Glossop Rural District.

The district is principally rural in character, the urban portion being small in area, and lying at the lower border of the District on the south and south-easterly sides. The sub-soil is composed of sand and clay, on a rocky basis.

Spinning and weaving are the chief industries, and most of the inhabitants are employed at the mills. The other inhabitants are chiefly farmers.

The houses are well built, and are of sufficient accommodation.

In July, 1909, there were 226 inhabited houses.

Population, Births and Deaths.—There was a decrease in the population in the intercensal period 1891-1901 of 137, or about 13.5 per cent. The population is now estimated at 890.

Compstall Urban District.

The decrease between 1891 and 1901 was due to migration of the population owing to closure of the printworks.

| | | Male. | | Female. | | Total. |
|--------|-----|-------|-----|---------|-----|--------|
| Births | ... | 12 | ... | 10 | ... | 22 |
| Deaths | ... | 10 | ... | 3 | ... | 13 |

Two of the deaths were residents who died in Institutions outside the district.

The birth-rate is 24 per 1,000, and is higher than last year's, which was 20 per 1,000.

The death-rate is 14.6 per 1,000, and is also higher than last year's, which was 9 per 1,000.

Of infants under one year there was one death.

Infectious Diseases.—Three cases of scarlet fever occurred during the year. All the cases were mild.

One case occurred on March 13th, and was isolated at home.

One case occurred on March 27th, and was isolated at Hyde Hospital.

One case occurred on Dec. 22nd, and was isolated at home.

One case of enteric fever occurred in August, and was isolated at home. The patient died from heart failure. The bedding and house were disinfected. No cause could be found.

No other case of infectious disease was reported.

All the affected houses were disinfected. Isolation of the patient was properly carried out, under the supervision of the Sanitary Inspector. Bed linen and clothes were either destroyed or disinfected and washed.

Disinfectants are supplied free.

The notification of phthisis is now compulsory in cases occurring amongst persons receiving Poor Law Medical Relief.

Isolation Hospital.—An agreement has been made with the Hyde Infectious Hospital Authorities, by which this Council retain one bed, and may send more cases if requisite.

Compstall Urban District.

Nuisances.—Three cases have been reported during the year. On notification the nuisances were abated.

Schools.—The old schools have been re-modelled, and were opened early in the year.

They have been inspected and found sanitary. There is a plentiful supply of water, and the Schools are of sufficient accommodation for the needs of the district.

Inspection of Mills.—These have been inspected regularly and found in a sanitary condition. No defects or nuisances were found.

Water - supply.—The water-supply is obtained from springs from the upland, and is stored in two reservoirs, from which the houses (with the exception of 3 or 4) in the Urban portion are supplied.

The water is clear, palatable, of good quality, and plentiful. Precautions have been taken to prevent flood water running into the reservoirs, and thus contaminating the drinking water.

The Rural part is supplied from wells and springs. These are well protected from contamination, but they are always liable to become polluted, and, whenever possible, the Council is advised to connect the houses with the main from reservoirs.

Sewerage and Drainage.—The house drains are trapped and ventilated. The sewage consists of slop water and soap water, and is conveyed by the sewers to the reservoir which supplies river water to the turbine at the Mills. Eventually it is discharged into the river. Owing to a complaint re the nuisance from the odour arising from the reservoir, the County Medical Officer of Health visited and inspected the reservoir last August, and has forwarded his report and advice to the Council. Last year the Council was advised to adopt a new sewerage scheme for the Urban portion. It is very advisable that steps should be taken, as early as possible, to have an efficient sewerage for this portion of the district. The river is no doubt polluted higher up, and contains chemical matter both in solution and suspension.

Excrement Disposal.—The owners of property remove all excreta and other refuse fairly regularly, but it would be better if a proper system of removal was adopted by the Council.

Compstall Urban District.

The ashpits mentioned in the last annual report have been covered in, and are now in a more sanitary condition.

The greater portion of the house refuse is burned by the inhabitants.

Milk-supply.—The milk is supplied by the farmers in and outside the district. The dairies are regularly inspected, and the cowsheds are kept clean and well whitewashed.

Slaughter-houses.—There is only one in the district. Dr. Hibbert has inspected this five or six times during the year and found it satisfactory. The refuse is removed regularly. No carcasses, or parts of carcasses, have been condemned. No action under the Sale of Food and Drugs Act has been taken.

Recommendations :—

1. A sewerage scheme for the Urban portion of the district.
2. A disinfecter for bedding and clothing.
3. Compulsory notification of measles and phthisis.

ELLESMERE PORT AND WHITBY**Urban District.**

Medical Officer of Health—DR. G. A. KENYON (deceased.)

Population at Census, 1901—4,082.

Population estimated to middle of 1909—7,328.

Area in Acres—1,261 (1,214 land, 154 foreshore).

Birth-rate per 1,000 living—41.2.

Death-rate per 1,000 living—14.5.

Death-rate from seven principal Zymotic Diseases—2.86.

Deaths under one year per 1,000 births—140.

Population, Births, Deaths, &c.—The population of the district at the middle of the year 1909 is estimated at 7,328, allowing an increase of 500 during the year, since the previous date of estimate, suggested by the circumstance that 115 new houses were erected during 1909. The figures for 1908, namely 6,828, it will be remembered were arrived at after a house to house enquiry by your Surveyor.

Ellesmere Port and Whitby Urban District.

The births registered during 1909 in the district were 302 as compared with 250 in the previous year, and 171 the average of the previous seven years. The birth-rate for 1909 is 41.2 per 1,000 persons living in the district, which is a very high birth-rate.

The deaths of persons belonging to the district, including 9 that occurred in the workhouse, 2 in the fever hospital, and 1 in a Liverpool hospital, were 106, as compared with 81 in the previous year. The death-rate for the year is 14.5 per 1,000 persons living in the district, a figure much above the average for this district.

The rate of infant mortality as measured by the deaths under one year of age to 1,000 births registered is 140, as compared with 116 for the previous year, and 126 the average of the previous seven years, and is by no means excessively high. The excess over the previous year is due to an epidemic of measles causing 14 deaths.

The causes of death include : 14 from measles, 2 from scarlet fever, 4 from whooping-cough, 2 from influenza, 1 from diarrhœa, 7 from infantile enteritis, 4 from phthisis, 6 from other tuberculous diseases, 6 from cancer, &c.

The increased mortality of the year is chiefly due to the measles epidemic and more deaths from bronchitis and pneumonia and premature birth.

At the request of the Local Government Board, a special report was made on the measles epidemic.

Infectious Diseases.—Under the Notification of Infectious Diseases Act were reported : 7 cases of diphtheria, 14 of erysipelas, and 79 of scarlet fever, of these, 2 cases of diphtheria and 42 of scarlet fever were removed to hospital.

The increase in the number of cases of scarlet fever appears to be a part of the prevalence of that complaint which has occurred in the neighbouring districts. The cases appear to have been mostly very mild. The houses attacked were visited and instructions given for isolation and disinfection. Prompt removal to hospital was effected in the cases requiring it. School attendance did not play any great part in the spread of infection. There was no spread through any local sanitary defect, or attributable to milk or food.

Ellesmere Port and Whitby Urban District.

Phthisis.—Ten notifications of phthisis were made under the tuberculosis regulations, which came in force on January 1st. 1909, relating to 8 persons. Eight of the notifications related to persons being removed from the district to the Workhouse Infirmary, and disinfection of the places from which they were removed was duly attended to by your Sanitary Inspector.

Inspections.—The Medical Officer of Health visited the district from time to time and has investigated cases of infection including phthisis, and advised on various details in connection with sanitary work, more particularly with regard to the abatement of nuisances requiring structural alteration, the paving of back passages, and making of streets, &c.

Public Abattoir.—The public slaughter-house opened on the 1st of July, 1908, is found very useful, is well constructed and convenient. The Inspector visits this and the other slaughter-houses from time to time, during slaughtering, and in 1909 he condemned 4 carcasses affected with tuberculosis, which were buried in ground near the outfall works. There is no Inspector with a special certificate in meat inspection.

Adoptive Acts.—Parts II., III., IV. and VI. of the Public Health Acts Amendment Act, 1907, have been put in force in the district. It has not, however, been necessary to take action under Sections 39 & 42 of that Act towards the conversion of privies to the water carriage system, although 20 privies have been caused to be converted into water-closets. The Urban part of the district is wholly provided with water-closets, and no other kind is allowed. There are privies in the Rural parts of Whitby Village, and on Whitby Heath, but they are few in number. By far the greater part of the conversions have been effected since the Urban District Council came into existence.

The Infectious Diseases Prevention Act of 1890 is in force in the district. The Local Government Board Model Bye-laws relating to common lodging-houses have been adopted, as well as those relating to slaughter-houses and buildings generally.

Water-supply.—The district is supplied with water from the West Cheshire Waterworks.

Refuse Removal.—Refuse removal is effected by a contractor, where movable receptacles are provided at weekly

Ellesmere Port and Whitby Urban District.

intervals; otherwise, every month. In most cases where there are water-closets there are movable receptacles.

Inspector's Report.—Mr. Hudson, the Surveyor and Inspector, reports that 115 new houses have been erected during 1909; some 200 houses, premises, etc., have been inspected during the year, and 100 re-inspected. Seven notices have been issued for sanitary amendments of premises. Six house drains have been repaired and cleansed, and 20 privies converted into water-closets. The pavement of 28 backyards has been caused to be repaired. One animal (a horse) was caused to be removed, being improperly kept. Fifty-six houses have been disinfected after infectious disease. Four bakehouses, 2 private slaughter-houses, 1 public slaughter-house, and 5 dairy premises have been regularly inspected. There has been no case of overcrowded dwelling-house.

Factory and Workshops Act.—There are two large factories employing 100 and 400 men respectively, and one workplace at which 300 men are employed (viz., the Shropshire Union Railway and Canal Works), besides two large flour mills employing 30 and 20 men respectively, the proper keeping of the sanitary arrangements of which are under supervision. There are six smaller factories and 15 workshops on the register, and under inspection, and kept in order.

HALE**Urban District.**

Medical Officer of Health—DR. T. A. ROTHWELL.

Population at Census, 1901—4,562.

Population estimated to middle of 1909—8,456.

Area in Acres—1,288.

Birth-rate per 1,000 living—14.63.

Death-rate per 1,000 living—6.0.

Deaths under one year per 1,000 births—64.

Death-rate from seven principal Zymotic Diseases—Nil.

Population.—During 1909 there were 90 new houses completed, and at the middle of the year 1,804 houses were tenanted. Taking the average number of persons per tenanted house to be the same as at the last census, viz., 4,737, the population at the middle of the year was 8,546. The estimated

Hale Urban District.

population at the middle of 1906 was 7,181, in 1907 it was 7,556, and in 1908 it was 8,120. During 1909, the increase was less than in the year 1908, but above the average for the last few years.

All the vital statistics in this report are based on the estimated population of 8,546 at the middle of the year.

Births.—The number of births occurring within the district during 1909 was 135—67 males, 58 females. The rate per 1,000 of estimated population is 14.63, the lowest rate recorded in this district. The rate for 1907 was 18.925, and for 1908 16.872, while the average rate for the years 1901—1908 inclusive, is 18.797.

Deaths.—The number of deaths registered as occurring in the district during 1909 was 50, and those of residents occurring outside the district 2, making a total of 52 deaths—24 males, 28 females. The net death-rate for the year was 6.08, while that for 1908 was 9.85, and the average for the years 1901—1908 inclusive, 9.04.

During the year eight deaths took place of children under one year of age, constituting the infantile mortality. The rate for the year, estimated per 1,000 births registered, is 64. The rate for 1908 was 51.09, and that for the years 1901—1907 inclusive, 62.82, so the rate for 1909 is above that for 1908, and above the average rate for the district since it was constituted an Urban district.

The causes given for the eight deaths were as follows:—convulsions 3, immaturity 2, pneumonia 1, tubercular meningitis, 1, tubercular disease of abdominal glands 1.

Deaths from Tuberculous Diseases.—Seven deaths from tuberculous diseases occurred during the year. Of these, four were certified as being from phthisis and three from other tuberculous diseases. During 1908 there were eight deaths from tuberculous diseases, and the same number in 1907.

The death-rate for phthisis for the year was .468 per 1,000 living, and for other tuberculous diseases .351, making a total of .819.

As heretofore, provision is made by the Council for the examination, free of charge, of sputa and discharges suspected of

Hale Urban District.

tubercle bacilli. Two specimens were sent during the year, one giving a positive result, and one a negative.

Zymotic Death-rate.—The seven principal zymotic diseases are :—small-pox, whooping-cough, diphtheria, (including membranous croup), fever (typhus, typhoid, continued), measles, scarlet fever, diarrhœa. During the year no deaths due to any of these diseases were reported.

The zymotic death-rate for 1908 was .37 per 1,000 living.

Infectious Diseases.—During the year 40 cases of infectious diseases were notified under the Infectious Diseases Notification Act, but as one case subsequently turned out to be German measles, the number ought to be 39. They were made up as follows :—scarlet fever 29, diphtheria 9, enteric fever 1.

Nine cases of scarlet fever, six cases of diphtheria, and one case of German measles, were removed to Baguley Sanatorium. The case of German measles was removed under the impression that it was a case of scarlet fever.

Scarlet Fever provided the greater number of infectious cases.

As in previous years, by arrangement with the Public Health Laboratory, Owen's College, Manchester, throat swabs for examination of suspected cases of diphtheria have been provided, and the cost of such examination borne by the Council. During the year seven swabs were sent for examination, two of which gave a positive result.

With the Council's permission, antitoxin is provided for such as cannot be reasonably supposed to bear the cost of same.

Enteric Fever occurred during November, but there was only one case.

"Typhoid Outfits," under similar arrangements as for diphtheria, are provided. Two of these outfits were utilised during the year, both giving a negative reaction.

Sewers and Sewage Disposal.—The major portion of the sewage from the north side of Hale Road is dealt with at the

Hale Urban District.

Altrincham Sewage Farm, while the sewage from the south side of Hale Road, with a little from the north side, is dealt with at the Council's own sewage farm at Ashley Heath.

The methods employed at Ashley Heath during the year were as follows :—

(a) By septic tank, followed by bacteria beds and broad irrigation.

(b) By settling tanks and broad irrigation.

The effluent as reported on by the Mersey and Irwell Joint Committee has been satisfactory.

The surface water sewer from Park Road has been carried forward to the River Bollin.

Scavenging.—The efficiency of the scavenging has been well maintained throughout the year.

The further experience of “scavenging without soil pollution” has only served to strengthen the very favourable impressions entertained as the result of its trial during 1908. It has proved itself not only vastly superior to the ordinary methods, but also economical.

Complaints and requests have been few in number.

Water-supply.—The water-supply to the district is from the Manchester Corporation reservoirs at Woodhead, and is satisfactory.

Cowsheds.—The various cowsheds in the district have been visited and inspected from time to time, and any necessary steps taken for their improvement.

Sanitary Inspector's Report.—This consists of a summary of work done, and the following are the chief items in it :—

| | | | |
|-----------------------------------|-----|-----|-----|
| Number of Inspections made | ... | ... | 220 |
| Disinfections after Scarlet Fever | ... | ... | 25 |
| „ Diphtheria | ... | ... | 5 |
| „ Consumption | ... | ... | 6 |

Hale Urban District.

| | | |
|---|--------|------|
| Drainage amended and made sanitary | ... | 8 |
| Re-drainage of House completed | ... | 3 |
| Privy Ashpits converted into Water-closets | .. | 24 |
| Dry Ashpits abolished and provided with Ash Bins... | | 20 |
| Insanitary Deposits of Garbage, &c., removed | ... | 3 |
| Dairies Inspected | | 11 |
| Inspection of Pig-styes | | 12 |
| Factory and Workshops Inspected | | 52 |
| Removal of Night-soil, &c.—cart loads | ... | 1486 |

HANDFORTH**Urban District.**

Medical Officer of Health—DR. ALGERNON NOWELL.

Population at Census, 1901—911.

Population estimated to middle of 1909—949.

Area in Acres—1,312.

Birth-rate per 1,000 living—20.02.

Death-rate per 1,000 living—12.7.

Death-rate from seven principal Zymotic Diseases—0.

Deaths under one year per 1,000 births—53.

General Characters of District.—This district was constituted an Urban District in September, 1904, being all that remained in the Stockport Rural District in 1903.

In October, 1904, an Urban District Council was elected, and in November and December of 1904 officials were appointed, and approved by the Local Government Board.

The district is in the Union of Stockport.

The district is mainly agricultural. There is one Bleach Works belonging to the Bleachers' Association, and employing men, women, boys, and girls. The health of the operatives is good.

The district lies upon a subsoil of sand and clay, is situated between the Urban District Council of Cheadle and Gatley on the north and the Urban District of Wilmslow on the south.

Handforth Urban District.

Population, Births, and Deaths.—The population of the district at the census in 1901 was 911. The number of inhabited houses is 193, and the average number of persons per house 4.72.

The population in 1909, estimated to the middle of the year, is 949. The number of deaths registered was 12, the number of births 19.

The death-rate per 1,000 of the population was 12.7.

The birth-rate per 1,000 of the population was 20.02.

The infant mortality per 1,000 registered births was 53.

There were no deaths from the seven principal zymotic diseases. There was one from phthisis.

Infectious Diseases.—There were two cases of typhoid fever, neither of which could be attributed to any source of infection in the district. There were no cases of any other notifiable infectious disease.

Diphtheria anti-toxin is provided by the District Council, and disinfectants are supplied free. There is no isolation hospital.

Factory and Workshops Act.—The Bleach Works have been inspected. They are clean, well ventilated, have sufficient air space and suitable sanitary accommodation.

There are no common lodging-houses or offensive trades in the district.

Water-supply.—There is a good supply from the Waterworks of the Stockport Corporation.

Dairies and Cowsheds are systematically inspected; they have been found clean and well ventilated.

Slaughter-houses.—There are two slaughter-houses, clean and in good order.

Elementary Schools.—These want new sanitary arrangements.

Handforth Urban District.

Sewage Scheme.—The new sewage scheme has made steady progress in the year.

Sanitary Inspector's Report.—Mr. P. Churchill Larmuth reports as follows on matters which came under his notice during the year :—

| | | | |
|--------------------------|-----|-----|----|
| Number of cases reported | ... | ... | 12 |
| „ „ notices | ... | . | 7 |
| „ abated without notices | ... | ... | 5 |
| „ of ditches cleaned | ... | ... | 5 |
| „ „ ashpits | ... | ... | 2 |
| „ „ foul manure pits | ... | ... | 1 |
| Unsafe buildings | ... | ... | 1 |

Plans were approved of the following :—

| | | | | |
|----------------------------|-----|-----|-----|---|
| Public-house | ... | ... | ... | 1 |
| Alteration to house | ... | ... | ... | 1 |
| Bakehouses | ... | ... | ... | 2 |
| Stables and carriage sheds | ... | ... | ... | 2 |

All farms, etc., have been inspected. Disinfectants are supplied free, and houses are disinfected after infectious diseases.

HAZEL GROVE AND BRAMHALL

Urban District.

Medical Officer of Health—DR. MOORE.

Population at Census, 1901—7,934.

Population estimated to middle of 1909—10,656.

Area in Acres—5,448.

Birth-rate per 1,000 living—17.83.

Death-rate per 1,000 living—9.56.

Death-rate from seven principal Zymotic Diseases—0.18.

Deaths under one year per 1,000 births—73.

Population.—In the year 1901 the County Borough of Stockport obtained an Extension Order under which 624 acres and a population of 1,857 were absorbed by the Borough. In the Census Report for 1901 the population of the reduced area is given as 7,934, and the acreage as 5,448.

Hazel Grove and Bramhall Urban District.

Births.—The total number of births is 190, as against 172 last year.

Deaths.—The total number of deaths in the district is 99, and 3 in institutions outside, making 102 altogether, and being equal to a death-rate of 9.56 as compared with 8.8 last year, and 13.7 in 1907.

In the South Ward, which comprises the drainage area of Bramhall, there have been ten deaths, representing an average of 3.5 per thousand of the population of that Ward.

The number of deaths from the seven principal zymotic diseases were two from diphtheria. This equals a death-rate of .18 per 1,000 of the population.

Infectious Disease.—The number of infectious cases reported during the year has been :—Scarlet fever, 36 ; diphtheria, 4 ; enteric fever, 2 ; erysipelas, 2. Total, 44.

The only disease that needs mention is scarlet fever, of which 36 cases were reported ; two were sent to the hospital, but the rest were able to be treated at their own homes. There were no deaths from this disease.

The absence of zymotic diseases in the district is good evidence of the general healthiness of the population.

Vaccination.—The total absence of small-pox for a lengthy period has the tendency to detract from the importance of vaccination, and the Medical Officer of Health emphasises the great seriousness of the neglect of it, and, at the same time, reminds the public of the care taken by the Local Government Board to provide the very best and purest lymph for the purpose.

“The comparative ease by which exemption can be obtained renders this much worse and makes people more than indifferent than they otherwise would be.”

“Should by any chance a case of small-pox be introduced into the district and an epidemic ensue it would be a very serious matter for those who have evaded vaccination, and although such a thing would be deplorable we ought to remember that we are on the high road between several large towns, between which

Hazel Grove and Bramhall Urban District.

itinerants are constantly passing, and such a thing is not impossible."

Water Supply.—This is obtained from the Stockport Corporation from their reservoir in Lyme Park and is of exceptionally good quality.

Scavenging.—The privy middens are regularly attended to by the Council's men, and the contents removed to the tips. Each year some of the ashpits are improved, and the introduction of water closets is steadily increasing. There are still a number of open ashpits that ought to be covered in.

School Accommodation.—It is expected that the new Council Schools will be erected during the coming year; this will provide accommodation for about 800 pupils who will be housed under very much superior and improved conditions than now obtains.

Dairies and Milk Supply.—There are 45 milkshops registered, which are all under supervision and inspection.

Too much care cannot be bestowed on keeping all the vessels connected with this trade well washed and clean, and the rooms frequently lime-washed, and such articles should never be stored in living rooms.

Public Urinals.—This is becoming a very serious matter from both a public health and a moral point of view, and it is difficult to imagine a district with a population of 7,654 without a single provision of this nature. It makes it very much worse since the accommodation at the various public houses has been done away with.

General Improvements.—Considerable progress has been made during the year. Grosvenor Street, Vernon Street, Angel Street, Smithy Street, Brewer's Green and Grundey Street have all been improved, and the latter street fully made up, and the Council now have a scheme under consideration for improving the lighting of thirty private streets, and the making by degrees of fifteen, though it is not contemplated to do these all in one year.

The property for the widening of Chapel Street has now been acquired, and will shortly be taken down, and the street widened,

Hazel Grove and Bramhall Urban District.

opening out that part of the village by a commodious thoroughfare, and removing a quantity of very undesirable and difficult property to be dealt with from a sanitary point of view.

NEW STREETS AND BUILDINGS.

| | |
|--|----|
| Number of Plans submitted for approval | 89 |
| „ „ approved | 89 |

The Approved Plans were for:—

115 Houses.

1 New Council School.

2 New Streets.

41 Miscellaneous Buildings, Alterations and Additions.

Factories and Workshops Acts.—The premises registered under these Acts have been inspected, but only very few causes of action have arisen.

HOLLINGWORTH
Urban District.

Medical Officer of Health—DR. W. E. S. BURNETT.

Population at Census, 1901—2,447.

Population estimated to middle of 1909—2,980.

Area in Acres—2,086.

Birth-rate per 1,000 living—17.4.

Death-rate per 1,000 living—11.0.

Death-rate from seven principal Zymotic Diseases—0.3.

Deaths under one year per 1,000 births—57.

Population, Births and Deaths.—The population of the district at Census in 1891 was 2,895; and in 1901, 2,447; the decrease during the decennium, 1891–1901, was 448. During 1903 and 1904 the population increased, and the estimate at the middle of June, 1905, was 2,800. The estimated population at middle of 1907 was 2,980, at which it was estimated in June last.

The increase of 1903 and 1904 was owing to large Bleach Works having been built in the district, and the subsequent increase to the middle of June, 1907, to additional employment therein.

Hollingworth Urban District.

The number of births registered in the district during 1909 was 52 (25 males and 27 females), equal to a birth-rate of 17.4 per 1,000 persons living, and is 6.4 below the mean birth-rate for the previous 10 years.

The number of deaths registered was 33, (14 males and 19 females), equal to a death-rate of 11.0 per 1,000, and is 3.9 below the mean death-rate for the previous ten years, of persons whose deaths were registered in the district, and 4.1 below the deaths at all ages, including those belonging to the district who died outside the district.

Three of the deaths were infants under one year of age, equal to a death-rate of 1.0 per 1,000 persons living, and 57 per 1,000 births registered.

The causes of these three deaths were respectively bronchitis, atelectasis, and marasmus.

Three of the 52 born were illegitimate, none of which have since died. No uncertified deaths were registered during the year.

Inquests.—The Coroner investigated the cause of death of three persons and the following verdicts were given :—

Female 74, syncope ; Male 66, heart disease ;
Male 53, asphyxia.

Infectious Diseases.—There were 15 cases of Infectious Disease notified :—11, scarlet fever ; 1, puerperal fever ; 2 erysipelas ; and 1, diphtheria. The scarlet fever cases occurred between April and October, the first case in Sofa Row, opposite the Co-operative School, in the early part of April ; this was followed by other cases, after an interval of a month,—one in Moorfield Street, one in Printer's Fold—and in June by another in Market Street. The Medical Officer of Health was unable to trace any definite connection between these cases, but concluded that they were due to these children playing with others from infected homes. Four other cases occurred in July, one of which was infected at a Show at Glossop ; another in October, in the same house in Printer's Fold where there was a case in May, and presumably some of the germs from the previous case must have escaped disinfection. Two other cases in Green Lane followed, and was infected by the last in School.

Hollingworth Urban District.

There were no apparent insanitary conditions on the premises where the erysipelas, puerperal fever, or diphtheria occurred. In isolating infectious diseases at home it is very important, among other things, that the window of the sick room should be open as much as possible, taking care to avoid draughts. In some instances this cannot be done, owing to long disuse and paint. In some cases, where the attention of the owner has been drawn to it, alterations have taken place, but there are a number of bedroom and living room windows in the district in the same condition, which if made to open would be of great benefit under ordinary circumstances to the health of those persons occupying them.

Isolation is carried out as far as possible, and the parents of children suffering from infectious diseases are instructed to keep all other members of the family from school, and other people's children from entering the infected house, until all risk of infection is over. Printed instructions to this effect are also forwarded immediately upon receipt of notification. Information is also given to the school masters. The premises are examined for insanitary conditions. Disinfectants are also supplied gratuitously during the illness, and the clothes and bedding subsequently disinfected by the Inspector.

Isolation Hospital.—No cases of infectious disease were admitted during the year.

Milk Supply.—There are no milk shops, the supply being obtained from the surrounding farms.

The Council adopted the Dairies, Cowsheds, and Milkshops Regulations, which came into force on 1st October, 1908.

There are 17 purveyors of milk who retail their milk in this and adjoining districts. Quarterly visits have been made to the cowsheds and dairies, and, generally speaking, they have been found clean and satisfactory. Still, there are a few that require improvements as regards drainage, light, and ventilation.

Water Supply.—The public supply, which is obtained from the Manchester Corporation Reservoirs (Arnfield Springs) is good and abundant.

Hollingworth Urban District.

New Bye-laws.—The following new bye-laws have recently been adopted by the Council :—

New streets and buildings.

Slaughter-houses.

Offensive Trades.

Common Lodging-houses.

Nuisances.

Outfall Works.—The Outfall Works are acting satisfactorily. The inspector of the Mersey and Irwell Joint Committee has made several visits to the works during the year, and 6 samples of effluent taken have been reported as good.

Refuse Removal.—The combined privies and ash-pits have been emptied, and all refuse removed, under the supervision of the Sanitary Inspector, in a satisfactory manner.

Slaughter-houses.—The slaughter-houses, which are all now registered, have frequently been inspected and found clean and in good order.

Factories and Workshops Act, 1901.—There are 7 factories, viz. :—3 cotton factories, 1 bleach works, 1 gas works, 1 copper engraving works, and 1 aerated water works. There are 29 workshops in the district. 25 visits have been made to the factories, and 102 to the Workshops. They were all found clean and in good order. The means of escape in case of fire is satisfactory.

Sanitary Inspection.—Inspections of the district have been made periodically by the Medical Officer of Health and Inspector, and when insanitary conditions have been observed, action has been taken to remedy them.

Nuisance Inspector's Report.—Mr. Pitt's (the Sanitary Inspector and Surveyor) report contains the following summary of work :—

During the year many nuisances have been reported, such as choked drains, which have been remedied as they came under notice. Sanitary improvements have been made at the following premises :—New ashpit at 41 and 43, Market Street; new drainage at Fisher's property, Woolley Bridge; new closets in

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Green Lane, and two others with covered ashpits at Patchett's property, in Booth Street; one re-built with covered ashpit at 18 and 20, Market Street, and 2, Atherton Square. Notice of insufficient closet accommodation has been served on property in Green Lane. He also reports having frequently visited factories, workshops, cowsheds, dairies, and slaughter-houses, and disinfected all houses where infectious diseases were notified.

HOOLE**Urban District.**

Medical Officer of Health—DR. F. J. BUTT.

Population at Census, 1901—5,341.

Population estimated to middle of 1909—6,378.

Area in Acres—334.

Birth-rate per 1,000 living—25.03.

Death-rate per 1,000 living—8.4.

Death-rate from seven principal Zymotic Diseases—0.6.

Deaths under one year per 1,000 births—69.

General Character of the District—The Hoole Urban District comprises an area of 334 acres, and is almost entirely residential in character. The population consists for the most part of railway employees, nurserymen, clerks, artisans, shop assistants, commercial travellers, and many persons who during the day are commercially or professionally engaged in Liverpool or Chester.

House Accommodation.—The house accommodation for the working classes is fully adequate for the needs of the district, there being a large number of well-built houses, with ample space between.

New Buildings.—The erection of new houses has been thoroughly supervised by Mr. Horace Davies, the Council's Surveyor.

No action has been taken under the Housing of the Working Classes Act.

There were five new houses erected during the year, all of which complied with the Bye-laws in force relating to New Streets and Buildings.

Hoole Urban District.

Population, Births, Deaths, &c.—The population at the census in 1901 was 5,341, which included 516 in the Chester Union Workhouse, which is situated in this district.

“The population of the Workhouse at the middle of 1909 was 587, and allowing for five new houses erected, I have estimated the population of Hoole proper as 5,791 (25 more than in 1908). The total estimated population of the entire district was accordingly estimated to be 6,387.”

During the year there were 50 deaths registered as occurring in the district (exclusive of those in the Union Workhouse) which is equivalent to a rate of 8.4 per 1,000, which is slightly higher than last year, but decidedly lower than the average for the last ten years. In addition to the 50 deaths registered as actually occurring in the district, there were 2 registered in Public Institutions beyond the district, making a total of 52 at all ages, belonging to Hoole proper, which is equal to a rate of 8.9 per 1,000, the “nett” death-rate of the district. Of the 52 deaths recorded, 21 were over 65 years of age, and 10 were under one year, which is equal to a rate of 68.9 per 1,000 births registered, this very low rate being accounted for by there being no deaths from common infectious or diarrhoeal diseases. There was only one death from phthisis as compared with 6 in 1908 and 1907, 5 in 1906, and 9 in 1905. There were 6 deaths from cancer, 5 from heart disease, and 5 from zymotic disease, 2 being certified as due to scarlet fever, and 1 each to diphtheria, whooping cough, and epidemic influenza. Of the 10 deaths under one year of age, premature birth was accountable for 4.

The number of births registered during the year was 145, of which number 83 were males and 62 females. The birth-rate was 25.03 as compared with 31.2, the average rate for the past ten years. It has been below 30 for the past 5 years.

The Notification of Births Act has not been adopted by the Council.

Inquests.—Nine inquests were held during the year.

Infectious Diseases.—There were 111 cases of infectious disease notified during the year, as against 43 in 1908, and 50 in 1907. The large increase of notified cases was due to the prevalence of scarlet fever, especially during the last few months of the year. There were 96 cases of scarlet fever, 11 of

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diphtheria, two of enteric fever, and two of erysipelas. There were two deaths from scarlet fever and one from diphtheria.

The 96 cases of scarlet fever were, for the most part, mild in type, and were reported from 70 houses.

The cases were pretty evenly distributed over the district.

Three cases were reported from the Workhouse, and five from Piper's Ash. The houses were all duly visited, sanitary defects remedied, and the premises were subsequently efficiently disinfected by the Council's Sanitary Inspector. Full directions were given in all cases not removed to hospital as to the proper method of isolation and use of disinfectants. The outbreak was clearly due to an extension of an epidemic which had shown itself in Chester and surrounding districts during the greater part of the year. There was nothing to suggest the spread of infection by milk, water-supply or sewerage, nor had school attendance any perceptible share in its spread; such being the case, it was not found necessary to advise the closing of the schools. The names and addresses of all school children reported as suffering from notifiable infectious disease were sent without delay to the Head Teachers, and the schools were visited from time to time.

Of the 111 cases notified, 16 were removed to the Chester Isolation Hospital, 12 of which were scarlet fever and four diphtheria.

Isolation Hospital Accommodation.—On March 7th, 1904, an agreement was entered into with the Chester Corporation by which, on payment of £100 per annum, four beds were retained for infectious cases from Hoole, and there was also an understanding that should there be any empty beds, additional cases could be received. This arrangement worked admirably till about the middle of November, 1908, no Hoole cases having been refused up to that time. Since then, however, the hospital has been so full of Chester cases, the Council have only been allowed the use of the four beds retained under the agreement of 1904. It is understood that the Chester Corporation are enlarging their present Isolation Hospital by adding an Observation Block, which should to some extent relieve the pressure, and the Council are advised to endeavour to obtain further accommodation for infectious cases occurring in their district.

Diphtheria.—As the number of cases of diphtheria notified in the district during the past few years has been rather high, and

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there has been some difficulty in getting cases removed to hospital, it is suggested that the Council should keep a supply of Antitoxin for use in necessitous cases. There were only 11 cases of diphtheria last year as compared with 23 in 1908, and 29 in 1907.

Public Park.—The Public Park has been kept in excellent order, and was well patronised by the children and residents of the district. The Council have received the sanction of the Local Government Board for a loan for the purchase of a plot of land for the extension of the park.

Dairies, &c.—The 12 milk-houses situated in this district have been regularly visited, and were always found in a thoroughly satisfactory state.

Slaughter-houses.—There are no slaughter-houses in the district.

Factory and Workshops Act.—The only premises coming under this Act are 2 bake-houses, one in Westminster Road, and the other in Charles Street. They have both been carefully supervised and they were always found in a perfectly clean and satisfactory state.

Sanitary Inspector's Report.—The following summary shows the number and nature of cases dealt with :—

| | | |
|------------------------------------|--------|----|
| Defective W.C. traps and apparatus | ... | 95 |
| Defective drainage... | | 36 |

Scavenging.—This work is done daily by men in the employ of the Council. The streets have been kept clean, and have been well watered whenever necessary. The ashpits have been emptied every week. The whole of the privies in the district have been converted except in the outskirts.

Drainage.—The sewers of the district empty into the Chester System. They have been regularly flushed, and have been kept in good order.

Water-supply.—There is an ample supply of water, the whole of the district being supplied by the Chester Waterworks Company.

HOYLAKE AND WEST KIRBY

Urban District.

Medical Officer of Health—Dr. E. G. KENYON (deceased).

Population at Census, 1901—10,911.

Population estimated to middle of 1909—14,404.

Area in acres—2,019.

Birth-rate per 1,000 living—18.5.

Death-rate per 1,000 living—11.5.

Death-rate from seven principal Zymotic Diseases—0.55.

Deaths under one year per 1,000 births—82.

Population.—The population of the Hoylake and West Kirby District estimated to the middle of the year, in the usual way, based on the assumption that the population has continued to increase, since the Census in 1901, at the same rate as during the previous ten years, is 14,404. An estimate based on the number of occupied houses gives 13,944.

Births, Deaths, &c.—The births that occurred during 1909, number 267, which is at the rate of 18.5, on the higher estimate of population and 19.14 on the lower estimate, per 1,000 persons living in the district: as compared with 21.95 the average of the previous ten years. The falling off in the number of births during 1909, must be due to temporary causes, for in the previous year the birth-rate was above the decennial average.

The deaths of persons belonging to the district during 1909, numbered 166. This is excluding the deaths of 24 persons registered in but not belonging to the district, of which ten were in the convalescent home, and one in the cottage hospital, and including twelve persons belonging to the district that occurred in public institutions outside the district, viz.:—two in the County Lunatic Asylum, two in the Fever Hospital, five in the Workhouse, and three in Birkenhead or Liverpool Hospitals, information of which has been sent me from their respective Medical Officers of Health.

The death-rate for the year is thus 11.5 on the higher estimate and 11.9 on the lower estimate of population, per 1,000 persons living in the district, as compared with 12.2 the average of the ten years 1899–1908. This is a low death-rate.

The percentage of deaths of infants under one year of age to births registered is 8.24. The average for the previous ten years is 9.2.

Hoylake and West Kirby Urban District.

Both the general and infantile death-rates compare very favourably with those of other districts.

The causes of death include, 1 from measles, 1 from scarlet fever, 1 from whooping cough, 2 from diphtheria, 1 from typhoid fever, 3 from influenza, 2 from diarrhoea, 17 from phthisis, 4 from other tubercular disease, 16 from cancer, 35 from bronchitis or pneumonia or pleurisy, 3 from alcoholism or cirrhosis of the liver, 2 from premature birth, 16 from heart disease, and 5 from accidents. The numbers in this list are not very different from those of the corresponding list for 1908, except that deaths from bronchitis or pneumonia have been half as numerous again in the present year.

Infectious Disease.—Under the Notification of Infectious Diseases Act, were reported, 12 cases of diphtheria, 5 of erysipelas, 46 of scarlet fever, 6 of enteric fever (5 of which were in children under 12 years of age), and 1 of puerperal fever. Of these 5 cases of diphtheria, 1 of erysipelas 33, of scarlet fever, and 4 of typhoid fever were removed to hospital.

Seventeen of the notified cases occurred in the first quarter of the year, 20 in the second quarter, 21 in the third, and 11 in the last quarter. Prompt removal to hospital or isolation at home and attention to disinfection has prevented any general spread of infection. The method of disinfection employed is as follows :—The room is first sprayed with Formalin solution, then fumigated with sulphurous acid gas, liberated from tins containing it in a liquid state. The bedding and clothing are disinfected by steam, in Manlove & Alliott's apparatus. Disinfection was also carried out after 18 cases of phthisis, 4 of cancer, 1 of measles, and 2 of septic pneumonia. Altogether 131 rooms were disinfected, 23 lots of bedding sent to the disinfector, and one lot of bedding destroyed. The drains were disinfected in 8 cases.

Phthisis.—Under the Public Health Tuberculosis Regulations 1908, which came into operation on the 1st of January, 1909, and require the notification of cases of phthisis coming under the care of the Poor Law Medical Officers as such, seven cases of phthisis were reported, and of these, three were removed to the Infirmary at Clatterbridge. In each case disinfection was done, and as regards those not removed, advice given about expectoration, cleanliness and ventilation, and any structural defects in their lodging noted for remedy. In this connection, four houses were disinfected, and two linewashed and cleansed.

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School Closure.—There was no closure of Schools during the year on account of infection, but some children residing in a neighbouring district outside the boundary were excluded on account of an outbreak near their homes. The Hoylake Infant School was disinfected in June after measles and scarlet fever.

Inspections.—Dr. Kenyon visited the district from time to time, and made general and special inspections and investigated the circumstances attending outbreaks of infectious disease, including notified cases of tuberculosis, and advised on these and on matters relating to nuisances, the proper keeping of bakehouses, cowsheds, workshops and temporary buildings, &c., all of which have been carefully dealt with.

Water-supply.—The district continues to derive an excellent supply of water from the deep wells of the West Kirby Waterworks. It is of the highest organic purity, and not unduly hard.

Sewerage.—The district is well provided with sewers which are regularly flushed. Two men with a full complement of leather hose pipes, are regularly employed on the work, with further assistance when required. An arrangement of valves at the end of Riversdale Road enables the flushing with salt water of the sewers of Riversdale Road and Meols Drive, and has worked admirably.

Sewer outlets have received regular attention and repairs when necessary. A new 9 inch sewer has been laid from Carr Lane to provide drainage facilities for new houses erected in Proctor Road, and for those in course of erection there. This is a continuation of the sewer laid last year from Alderley Road to the Council's Depot and Electricity Works.

A new 9in. sewer has been laid from South Road to the West Kirby C.E. Schools, across Mr. Totty's land and under the Railway at a cost of £150. A new 9in. sewer is now being laid from King's Gap along Stanley Road, Hoylake, to afford means of drainage to new villas in course of erection on Lord Sheffield's estate. This is at an estimated cost of £330, one-third of which has been paid by Lord Sheffield.

A new sewer has been laid from Sandy Lane to Hilbre House, West Kirby, to provide drainage facilities for that mansion which has been rebuilt and enlarged. This sewer is capable of

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further utilization should building operations take place on that estate.

All new connections to sewers are made by the Council's workmen and small connecting chambers provided. The use of "saddle" junctions was discontinued more than four years ago.

All new house drains are subjected to the water test before being filled in.

Passages.—During the year, five passages have been paved with setts well grouted in with tar and chippings.

Public Convenience.—A new public convenience, with both urinal and w.c. accommodation for men has been constructed in Albert Road, Hoylake, at a cost of £75.

Refuse Disposal.—Scavenging is done by the Council with their own workmen, horses and carts. A disinfectant is mixed with the water used for street watering during the summer.

Plans of New Buildings.—Plans have been passed during the year for

- 44 Houses
- 7 Stables
- 2 Workshops
- 1 Factory
- 2 New Streets
- 3 Additions to Churches,
- 4 Motor houses,
- 1 Office, and
- 21 Additions and alterations to houses.

31 houses, 4 stables, 4 motor houses, 2 workshops, 1 factory, 1 office, 3 additions to churches, and 16 additions to houses were built and completed during the year.

In course of erection at the end of the year there were, 28 houses, 1 Public Higher Elementary School, now completed, 1 Hospital, and 1 Sunday School.

Public Health Act Amendment Act 1907.—The following sections have been adopted, 18, 19, 20, 21, 22, 24, 26, 27 and

Hoylake and West Kirby Urban District.

33, in Part 2. All of Part 3. Sections 52-59, 62-66 and 68, in Part 4. All of Part 6, and Sections 93-95 in Part 10.

Sanitary Inspector's Report.—A very complete and satisfactory Report is again made by Mr. Robinson as Inspector of Nuisances and Inspector under the Factory and Workshops Act.

Factory and Workshops Act.—Under the Factory and Workshop Act, the following workshops were on the Register at the end of the year; bakehouses, including one Factory and one Underground, 28; dressmakers and milliners 17, joiners and cabinet makers and upholsterers 16, boot and shoe repairers 13, hand laundries 6, factory laundries 2, tailors 2, golf club makers 2, others 21—Total 110. Ninety-eight visits of inspection were made and defects found as follows: want of cleanliness 4, want of ventilation 3, overcrowding 3, want of drainage of floors 1, other nuisances 2, insufficient sanitary accommodation 1, unsuitable or defective 3, breach of special sanitary requirements for bakehouses 3—Total 20.

Notices were served accordingly, and defects remedied in every case. No lists of outworkers were received. One matter was notified to H.M. Inspector of Factories, viz., failure to affix Abstract of the Factory and Workshops Act. Matters were notified in 11 instances as remediable under the Public Health Acts, but not under the Factory and Workshops Act. 9 reports of action taken thereon were sent to H.M. Inspector.

Dairies, Cowsheds, &c.—Under the dairy, cowshed and milkshop regulations, there are in the district 11 registered cow-keepers and dairymen, and 15 purveyors of milk. Their premises have been inspected twice or three times during the year. 8 notices served during the year, requiring limewashing, were complied with. Two cowsheds in the rural part of Meols which were unsatisfactory have been pulled down. Another cowshed has been drained and connected with the sewer in that neighbourhood. The dairy premises and milkshops are well kept.

Slaughter-houses.—There are 4 licensed slaughter-houses in the district, but only one is in complete and regular use. They are visited frequently, both at times of slaughtering, and otherwise. No meat has been seized or destroyed during the year. The bulk of the meat consumed in the district is brought from Birkenhead lairages after inspection there by the Birkenhead Meat Inspector.

Hoylake and West Kirby Urban District.

The following summary is an indication of the work done in connection with the abatement of nuisances :—

| | | | | |
|---|-----|-----|-----|-----|
| Defective ashpits | ... | ... | ... | 4 |
| Defective waterclosets | ... | ... | ... | 26 |
| Defective drains | ... | ... | ... | 16 |
| Defective soilpipes | ... | ... | ... | 12 |
| Defective gutters and downspouts | ... | ... | ... | 5 |
| Defective wastepipes | ... | ... | ... | 6 |
| Defective privies converted to w.c's. | ... | ... | ... | 2 |
| Blocked drains | ... | ... | ... | 12 |
| Blocked sewers | ... | ... | ... | 3 |
| Blocked waterclosets | ... | ... | ... | 8 |
| Insanitary yards | ... | ... | ... | 17 |
| Accumulations of manure, &c. | ... | ... | ... | 9 |
| Fowls and animals kept so as to be a nuisance | ... | ... | ... | 3 |
| Ashpits replaced by bins | ... | ... | ... | 7 |
| No receptacle for house refuse | ... | ... | ... | 10 |
| Dirty houses | ... | ... | ... | 2 |
| Other nuisances | ... | ... | ... | 2 |
| Total | | | | 146 |

Of the above 5 are yet outstanding, but being dealt with, as also two undrained, old ones at Meols.

Forty-nine written complaints have been received during the year and attended to, in addition to complaints received by telephone.

Sixteen written applications received from occupiers or intending occupiers to have drains and sanitary fittings tested, were responded to, and where necessary, representations to the owners concerned led to defects being remedied.

The privies at the West Kirby C.E. Schools have been converted to water-closets. This has been rendered possible by the construction of the sewer previously mentioned from South Road, under the railway. There are now only eight privies left in the district, and these chiefly in the rural part, at isolated houses not near any sewer. In this connection it must be stated that Part 3

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of the Public Health Amendments Act, 1907, has been adopted, but only came into operation after the close of the year.

Owing to some overcrowding at the Meols C.E. School in May, the Managers were requested to keep the attendance down to the recognised standard, with regard to floor area and cubic space. The difficulty was overcome by drafting some of the children to the other Schools. The provision of the New Parade Higher Elementary School just opened will lessen the pressure on Meols School, about 20 scholars having gone from the latter to the New School.

Meteorological Observations.—A very useful series of meteorological observations have been recorded during the past eleven years, taken at the Council's Offices. Mr. Robinson's report thereon for 1909 is just being issued. The bright sunshine recorded was 1583.7 hours, which is 85.9 hours above the average for the previous ten years. Bright sunshine was recorded on 307 days. The rainfall during the year amounted to 28.94 inches, being 1.72 inches above the 10 years' average. December was exceptional, the total fall for that month being 6.07 inches. Mean temperature varied from 39.0 to 59.3 in August.

KNUTSFORD

Urban District.

Medical Officer of Health—DR. T. W. H. GARSTANG.

Population at Census, 1901—5,172 (4,686 exclusive of strangers in public institutions.)

Population estimated to middle of 1909—6,613 (5,686 exclusive of strangers.)

Area in acres—1,718 (excluding area covered by water.)

Birth-rate per 1,000 living—20.1.

Death-rate per 1,000 living—11.1.

Death-rate from seven principal Zymotic Diseases—0.

Deaths under one year per 1,000 births—96.

The Civil Parish of Knutsford was constituted an Urban District on April 1st, 1895.

Population.—At the Census of 1901 the population was 5,172. After careful consideration the Medical Officer of Health

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gives it as his estimate that the population at mid-year, 1908, was 6,613, or, excluding strangers in the Workhouse and Gaol, 5,686.

Births.—The total number registered was 126, of which 12 (in the Workhouse) do not belong to Knutsford. 114 births give a rate of 20.1 only; which is 5.3 below the average and is the lowest rate ever recorded.

Deaths.—The total number registered was 49 in the District, 79 in the Workhouse, and 5 in the Gaol. Of these, 13 in the Workhouse nominally belonged to Knutsford; and 1 occurred in the Manchester Infirmary; which gives a total of 63 belonging to Knutsford. This is equal to a death-rate of 11.1. This is 3.4 below the average and is the lowest rate ever recorded.

The Township of Knutsford gets debited with more deaths than really belong to it; for the Workhouse registers in the hospital as nominally belonging to "Knutsford" a number of vagrants who really belong elsewhere, and whose residence in Knutsford has extended perhaps only over a few hours; at least so it is understood. What is quite certain is that there were not 13 deaths in 1909 of pauper inmates who had been genuine residents in Knutsford. The true death-rate for Knutsford would, in the opinion of the Medical Officer of Health, probably be not above 10.5.

Deaths from Zymotic Diseases.—None. This is the first time there has been this pleasing record.

Infantile Mortality.—Eleven deaths occurred in children, under one year of age, which bears the same proportion to the 114 births as 96 to 1,000. This is twelve below the average; and it is two below the actual figure for the whole country in 1909. The quinquennial averages are:—1895-9, 152; 1900-4, 120; 1905-9, 88.

Notification of Births Act.—Work under this Act has been continued by Nurse Hicks. The following figures are for the period December 18th, 1908, to December 29th, 1909. 114 notifications were received (seven from doctors, 52 from midwives, 55 from other persons), and three cases were found unnotified. There were two still-births, nine deaths (from prematurity or debility), and six removals from the district. 29 cases were of a class that did not require visiting; 88 were visited, and most of

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them kept under observation for as long as necessary. On an average, at least 30 cases were under observation at any given time; and the total number of visits paid was about 3,000. The Nurse's salary was increased from £20 to £25. Gauze covers for milk-vessels were provided (R. Sumner & Co., Liverpool, makers), and were distributed, with the object of preventing the access of house-flies to the milk.

There is no doubt that the work has been very valuable; and certainly the cost has been reasonable.

Illegitimate Infants.—There were six illegitimate births among 114, or 5.3 per cent. There were no deaths of illegitimate infants.

Mortality among Old People.—Twenty-four deaths, being 38 per cent. of all deaths, the same percentage as last year, the average of the last nine years being 33 per cent.

Coroner's Inquests.—These were held on the five prisoners who died in the gaol; also on one pauper in the workhouse, not belonging to Knutsford. Otherwise there were none; thus adding another "record" to the list of them which 1909 has set up.

Notifications of Infectious Diseases.—Only nine were received during the year, seven being scarlet fever, one diphtheria, and one enteric fever. One case of scarlet fever occurred in the workhouse, the remainder in the town. The total is 15 below the average, and a lower number has only been recorded three times, viz., in 1897, 1898, and 1902.

Hospital Isolation.—6 cases of scarlet fever were removed to Hospital. The Council has hitherto defrayed all cost out of the rates; but the heavy expense entailed by the epidemic of 1906-7 has led to a reconsideration of this policy; and in future persons will be asked to contribute, according to their ability to do so.

Vaccination.—The Urban District forms, by population, two-thirds of the Knutsford Registration Sub-District of the Bucklow Union. For this combined area the vaccination returns for thirteen years, 1896-1908, are given in the preceding Report for the Bucklow Rural district; to which reference should be

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made. From this it appears that in 1908 (not 1909) 172 children were vaccinated, out of 210 surviving ; 4 being lost sight of. The percentage is 82.

This, in common with other Districts, shows a decline from the results of previous years, due to the greater facilities for obtaining exemption ; and this decline is likely to increase still more in the future.

Measles.—No deaths. No information.

Scarlet Fever.—Only 7 cases ; 2 in one house in January ; 2 in one house in September and November ; single cases in May, June, and September. No deaths. All removed to Hospital but one.

Whooping-cough.—3 cases reported in Cross town in July. No deaths. No further information. (Enquiry by the Inspector at the time led to the conclusion that the report was incorrect.)

Diphtheria.—1 case in March ; treated at home ; recovered.

Enteric Fever.—1 case in July ; treated at home ; recovered.

Diarrhœa and Enteritis.—1 death, at 6 weeks, in April, from enteritis ; this could not well be “zymotic.”

Phthisis.—2 deaths ; Rate 0.35. F., 26 years ; M., 41 years.

Cancer.—4 deaths. Rate 0.70. 3 males, 1 female. Ages 54, 58, 64, 83 years. Seat of disease, stomach, liver, rectum, ovary.

Water-supply.—From the impounding of a small stream which rises on Alderley Edge, some 8 miles away. Quantity sufficient. Quality unsatisfactory on chemical analysis, due to unavoidable pollution from the agricultural land through which the stream passes ; but quite satisfactory if judged by the results of experience, inasmuch as no outbreak of illness in the town has ever occurred which could be attributed to the water-supply.

During 1909 (see Bucklow Report) a serious epidemic of enteric fever (40 cases) at the Epileptic Colony caused much

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uneasiness, as the estate is bounded on its lowest side by one of the main feeders of the Pedley Brook. Whilst searching for a cause for that epidemic, the Medical Officer of Health found a cottage at Sandleheath Wood, (Macclesfield R.D.), from which two young men had recently been removed to hospital suffering from enteric fever. The cottage stands only a few feet from a ditch, which of course is convenient for "slops." The privy also stands on the ditch, and was being re-built, at the time of my visit, on account of its dilapidated condition. In his opinion it is morally certain that enteric pollution of this ditch actually took place during one fortnight, or part of it, in September; and at the bottom of the ditch there is a small running stream which ultimately joins the Pedley Brook. It is asked—"Why therefore was there no enteric fever in Knutsford in October? The facts allow of but one answer. The exposure to sunlight and fresh air, and the length of time which elapses before the reservoir is reached; and again, the time between reaching the reservoir and getting into the service-mains (which are all unknown, but really-existent conditions), must be sufficient to destroy the disease germs before they can do harm. The same explanation, at which I have tentatively hinted in previous Reports, will then suffice to show why Knutsford drinking-water is harmless, although known to receive a large amount of pollution in the upper reaches of the streams and their feeders."

Inspections.—Systematic and frequent inspections of the district have been made by the Medical Officer of Health, either alone or accompanied by the Sanitary Inspector, and on some occasions by members of the Health Committee.

Sanitary Inspector's Report.—The following extracts from this are of some public health interest:—

Sewage Works.—The analyses of the effluent by the Mersey and Irwell Joint Committee have been favourable throughout the year. The precipitation tanks have a capacity of nearly 300,000 gallons; the normal daily flow is 260,000 gallons. There are 928 square yards of high-level filters, and 260 square yards of low-level filters.

Factories and Workshops.—Regular inspections are made. An additional water-closet has been provided in one case, where it was found necessary.

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Dairies and Cowsheds.—These have been inspected ; and several informal notices served.

Slaughter-houses.—These are kept very clean. Several notices have been served for the more regular and speedy removal of manure.

Pigsties.—These have all been visited by the Health Committee, as well as inspected by the Medical Officer of Health and myself. Some have been done away with, and the remainder improved.

Houses.—Twenty-five houses have been built during the year, or are nearing completion. Five old houses have been pulled down. The “Feathers Inn” and the “Night Asylum” have each been converted into two cottages.

Drains, &c.—A manhole has been built near Mrs. Norbury’s property, King Street. The new urinal, near the railway bridge, is proving to be a great public convenience. Old drains have been reconstructed in several cases. Fifteen privies have been converted into water-closets ; and 9 more will shortly be done.

Scavenging.—This work is done by the Council’s own men. Considerable nuisance still exists from garden-refuse and trade-refuse being put into the large old-fashioned ash-pits.

Schools.—All schools have been disinfected during the holidays.

LYMM

Urban District.

Medical Officer of Health—DR. E. M. DE JONG.

Population at Census, 1901—4,707.

Population estimated to middle of 1909—4,980.

Area in acres—4,372.

Birth-rate per 1,000 living—25.1.

Death-rate per 1,000 living—12.0.

Death-rate from seven principal Zymotic Diseases—Nil.

Deaths under one year per 1,000 births—72.

General Features.—The Urban District of Lymm forms part of the northern boundary of the County of Chester, which

Lymm Urban District.

it divides from Lancashire. It lies about five miles eastwards from Warrington. The district consists of a central village with residential and agricultural surroundings. This central portion, itself somewhat hilly, is surrounded by plain lands low lying on the north, west and east, but keeping a higher level in a southern direction.

The population is made up of a residential portion occupied at Manchester, 13 miles away, and at Warrington; of shop-keepers, of local operatives (fustian cutters), of artisans and operatives living in the district and working outside it, and finally of an agricultural portion.

The house accommodation throughout the district is sufficient, and fit for habitation. The open space around the houses is ample, and the surroundings of the dwellings are clean.

New Buildings.—Plans of all new buildings must be submitted to, and approved by the Urban District Council.

During the year 1909, plans for 6 new houses, small semi-detached villas mostly, were passed, as against 7 last year, and 13 in 1907.

Population.—From 1881 to 1891 (census years) there was an increase of 330.

From 1891 to 1901 there was a decrease from 4,995 to 4,707, that is, 288 or 5.76 per cent.

This was an artificial decrease caused by Ship Canal labourers and their families leaving the district on the completion of the work here during that period.

For 1909 the population is estimated at 4,980.

Births.—There were registered in 1909, 125 births—67 males and 58 females. Of these, nine (three males and six females) were illegitimate. One of these died during the year. In 1908 there were 122 births, and the average for the previous ten years was 116.

This year there is a birth-rate of 25.1 per 1,000 living, as against 24.6 in 1908, and 23.6 for the previous ten years.

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Deaths.—In 1909 there were 60 deaths, one of which was that of a resident dying in a public institution outside the district.

This gives a nett death-rate of 12.0 per thousand living as against 12.5 for 1908. This is the lowest recorded death-rate for ten years, and depends chiefly upon the very small number of deaths occurring during the last quarter of 1909. These were only ten in number.

The average death-rate (uncorrected) for the last ten years is 12.8. There were four inquests held during the year.

Of these 60 deaths, 26 were of persons 65 years and over. Of these three were 70 years old and under 75 years, nine were 75 years old and under 80 years, six were 80 years old and under 85 years, one was 85 years old and under 90 years.

ANALYSIS.

| | | | | |
|---------------------------|-----|-----|-----|----|
| Bronchitis ... | ... | ... | .. | 10 |
| Phthisis ... | ... | ... | ... | 8 |
| Other Tubercular Diseases | ... | ... | ... | 4 |
| Influenza ... | ... | ... | ... | 2 |
| Heart Disease | ... | ... | ... | 11 |
| Accidents ... | ... | ... | ... | 1 |
| Cancer ... | ... | ... | ... | 6 |

The seven principal Zymotic Diseases include small-pox, measles, scarlatina, diphtheria and membranous croup; whooping-cough, fever, and diarrhœa. The death-rate for these per 1,000 living is 0. as against 1 for 1908.

Of the ten deaths from bronchitis, four were infants under 12 months, five were persons over 65 years of age.

Of the 11 cases of heart disease, nine were of persons of 65 years of age and over, being cases of senile heart degeneration, and consequent failure in aged people.

Infant Mortality.—In 1909 there were nine deaths registered of infants under 12 months of age. This gives a rate of 72 per thousand births registered, as against 11 infants registered with a rate of 90 in 1908, and a mean rate of 98 for the previous ten years.

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There is reason to be satisfied both with regard to its comparative lowness, and also with regard to the causes of such deaths as took place, but no effort should be relaxed to preserve and maintain the lives of the healthy born infants, against the destroying forces of ignorance, carelessness, and neglect.

Infectious Diseases.—In 1909, 59 cases of infectious diseases were notified, as against 130 in 1908, of which 90 were measles.

Scarlatina—25 cases, no death.

Diphtheria—3 cases, no death.

Chicken-pox—28 cases, no death.

Measles—1 case, no death.

Erysipelas—2 cases, no death.

An epidemic of 20–30 cases of rotheln (German measles) occurred during the early part of the year. This is a non-notifiable disease, and contrary to popular opinion quite distinct from both scarlet fever and measles. The absence of ordinary measles, probably owing to the saturated condition of the children after the great incidence of the previous three or four years. There was an epidemic of scarlatina during the months of September, October, and early November, of which one could not trace the origin, and which almost tested the hospital capacity to the full. There were also a series of cases of whooping-cough in the last quarter by which some very young infants were affected, but without any fatal case.

There was likewise a case of anthrax (malignant pustule) in a man, which fortunately, and contrary to the usual issue, recovered.

Vaccination.—The modification of the law with respect to compulsory vaccination is still having an effect upon the vaccination in this district, especially amongst the class who would be most likely to suffer most heavily should an outbreak of small-pox occur. Again the figures for 1909 have fallen short of the previous average number by about 25 per cent.

Disinfection.—Disinfection is still done by means of for malin, in spray or vaporizing by heat, and is satisfactory. Such articles as cannot effectually be so disinfected, or by boiling, are treated by steam at Warrington by arrangement with that Authority. In cases of typhoid fever the attendants upon the

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patient are warned that all the dejecta, urine, and fæces are sources of infection, and must be well mixed with carbolic acid before removal.

Isolation Hospital.—The Isolation Hospital has been used for 15 cases of scarlet fever during the year, on two different occasions—for one case, and for 14 cases respectively in May and September. It is inspected regularly and kept ready for immediate use.

Antitoxin.—Antitoxin for use in cases of diphtheria is at the command of medical practitioners in the district for suitable cases.

Bacteriological Examination.—The arrangement holds with the Pathological department of the Manchester University for the examination of the blood in cases of suspected typhoid fever, and for the examination of morbid products from the throat or nose in diphtheria.

Sewerage and Sewage Disposal.—The effluent from the sewage farm, as analysed by the Mersey and Irwell Joint Committee, is reported good. The main sewers in the district continue to be flushed with town's water every fortnight.

Removal and Disposal of House Refuse.—House refuse is deposited in ashpits and ashbins, which are emptied by public scavengers at intervals, varying according to the size of the ash-pit.

In 1909 5,950 ashpits were emptied, and the number of loads removed was 1,716.

Ashes and refuse are conveyed by the Council's servants to a tip. Night soil is made use of by the farmers.

Water-supply.—This in the hands of a private company, and is generally laid on throughout the district where possible. Analysis proves it to be a good, potable water.

Slaughter-houses.—All are registered. They are seven in number, five in actual use.

Dairies, Cowsheds and Milk Shops.—These are 25 in number. They are regularly inspected and found in good condition. In no case is any other commodity sold than milk or dairy produce.

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Bakehouses.—Of the 10 in use, one only is underground, and this one is satisfactory. All the bakehouses, on inspection, fulfil the necessary requirements of cleanliness, drainage, light and ventilation.

Factories and Workshops.—There are 12 factories, 30 workshops, and three workplaces in use in the district.

One hundred and ninety-seven inspections have been made during the year, and the following noted :—

- i. (a) Cleanliness. Satisfactory. Cleanliness and lime-washing well attended to.
- (b) Air space in all cases well above statutory requirements.
- (c) Ventilation well provided.
- (d) Drainage of floors in places in which wet processes are carried on. There is one such place well drained.
- (e) In all cases suitable provision of sanitary conveniences is made.
- ii. Special sanitary regulations for bakehouses. All the bakehouses are in a good sanitary condition.
- iii. Home workers. There are two in the district.

MARPLE**Urban District.**

Medical Officer of Health—DR. H. BURTON.

Population at Census, 1901—5,595.

Population estimated to middle of 1908—5,800.

Area in acres—3,054.

Birth-rate per 1,000 living—21.05.

Death-rate per 1,000 living—14.0.

Death-rate from seven principal Zymotic Diseases—0.34.

Deaths under one year per 1,000 births—73.

General Features.—The district of Marple, including portions of Strines and High Lanc, is a hilly one, being chiefly

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built upon a slope looking west and south-west. It varies from 450 to 633 feet above the sea level. It is well-wooded and drained, and although the sub-soil is clay with occasional faults of sand and gravel, yet owing to the natural drainage it is fairly dry and healthy. It is chiefly a residential locality, containing only three mills and a few small works, the remainder of the village consisting of fairly large houses, belonging to people with businesses elsewhere. The chief industry is cotton spinning and manufacturing. The cottages are mostly of a very good type with plenty of room and ventilation, and most of the previous overcrowding has been done away with by the erection of new and larger cottages, 42 such having been erected and tenanted last year.

Population.—The population at the last census was 5,595¹ and it is now estimated at 5,800. In 1901 the number of inhabited houses was 1,390. This year the number is 1,454, giving an average of nearly four persons a house.

Births.—There were 125 births registered during the year, equal to a rate of 21.05 per 1,000 of the estimated population.

Deaths.—The deaths registered numbered 82, equal to a rate of 14.0 per 1,000 of the estimated population. The chief causes of death were scarlet fever (1), enteric fever (1), phthisis (4), cancer (5), bronchitis (13), pneumonia (3), and heart diseases (6). Thirty deaths occurred at ages of 65 years and upwards.

Infectious Diseases.—The following have been notified :—diphtheria, 1 ; erysipelas, 2 ; scarlet fever, 41, and enteric fever, 1 ; total 45. Of these, the case of diphtheria and 14 of the cases of scarlet fever were removed to hospital. A few cases of mumps of a mild nature occurred, but none of whooping-cough or measles.

Scarlet Fever.—The cases were of a mild character, and one child was discovered desquamating in School. The cause of the epidemic at High Lane was evidently importation. As many cases as possible are isolated at home. The High Lane School was closed for two weeks owing to the rapid spread of the disease in that part. All houses, etc., were thoroughly disinfected and cleansed, and bedding, etc., disinfected by the Hygiene Authorities.

Phthisis.—Four deaths were reported. The Tuberculosis Notification Order for paupers only is now in force. The Council have taken advantage of that Act to thoroughly fumigate and

Marple Urban District.

disinfect all houses where cases have been, and in as many private houses as possible this has also been effected. The Council have also offered, when a patient suffering from tubercle has removed, to disinfect the premises, and have had a pamphlet distributed giving advice as to spitting, etc., and receptacles have been provided, with antiseptics.

Sewerage and Sewage Disposal.—The sewerage and drainage has of late years been very much improved, and this year a new sewer has been made at a place called Carrbrow. The Council is diverting the main sewer at Cross Lane, and hope to commence operations shortly.

Plans and estimates have been prepared for a sewer to Marple Ridge.

The flushing of the sewers is not yet satisfactory, as it is only done when there are complaints about the smells from manholes, but a flushing tank is badly needed.

The ventilation also might be improved by means of more sewer shafts.

Our sewage works are not yet quite satisfactory, nor are they large enough to take the increased quantities of sewage going down the mains. This matter will require early attention. Out of four samples of effluent taken by the Inspector one was unsatisfactory. The disposal of excrement is at present by three methods, viz. : Water carriage, pails, and middens. The old privies are fast being relegated to the past, and conversion into water-closets rapidly proceeding. Our water-supply is now more copious, and the closets will be adequately flushed. The pails and middens are emptied as rapidly as possible, although there have been some complaints.

Water-supply.—The water-supply of Marple is derived from the Cheshire hills, collected into reservoirs at Lyme, and belonging to the Stockport Corporation. The supply has been very precarious in dry seasons, but now that a new engine has been installed to pump more water into our own reserve, we shall have a much more regular and copious supply. There are now two engines working at Wybersley, and they can pump a sufficiency of water to supply us at present. The Stockport Corporation are constructing a 24-inch water main in connection with their Kinder scheme, which will pass down High Lane, and our Surveyor has arranged for a 12-inch branch to be inserted to carry the water to our reservoir. The water is pure and good, and there were no

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outside complaints about it, but the Council had three different supplies (springs) analysed. Two of these were found unfit for drinking and condemned, and notices placed warning the inhabitants, and in the third case (the Navy spout) a special Report on the matter was made

Factory and Workshops Act.—There are 11 factories and 31 workshops in this district, also 9 bakehouses and 5 slaughter-houses. All of these have been inspected and examined with regard to cubic space, ventilation, overcrowding, limewashing, and cleanliness. No great defects were found, and all were healthy; but in a few instances, the privies were a nuisance. They are being converted into water-closets as quickly as possible.

The bakehouses are all clean and healthy, and no defects were found.

The workshops have been inspected. No cases of overcrowding were found, and in no cases were girls employed contrary to the Act, but two or three were sent to the factory surgeon for examination. All the rooms were well ventilated and healthy.

In no cases were legal proceedings necessary.

Canal Boats.—The canal boats, 40 in number, were inspected, and found satisfactory.

Adoptive Acts and Bye-laws.—The following Adoptive Acts are in force in the district :—

Infectious Diseases Notification Act.
Public Health Acts (Amendment), 1907.

The following Bye-laws are also in force :—

New Streets and Buildings.
Common Lodging-houses.
Slaughter-houses.
Cleansing and Scavenging.
Offensive Trades.
Hackney Carriages (new 1909).

Recommendations—

Flushing van for sewers.
More extensive flushing and ventilation of sewers.
Compulsory notification of measles and phthisis.
Veterinary inspection of cattle.

MIDDLEWICH

Urban District.

Medical Officer of Health to Dec. 31st, 1909—DR. T. W. H.

GARSTANG; now DR. MELVILLE.

Population at Census, 1901—4,669.

Population estimated to middle of 1909—4,980.

Area in acres—1,082.

Birth-rate per 1,000 living—32.3.

Death-rate per 1,000 living—15.7.

Death-rate from seven principal Zymotic Diseases—1.0.

Deaths under one year per 1,000 births—155.

By Local Government Order No. 29,250, which came into operation on April 15th, 1893, the Urban District of Middlewich was extended to include parts of the Civil Parishes of Byley, Newton and Kinderton-cum-Hulme, which were added to Middlewich Civil Parish on September 30th, 1894, by Local Government Board Order No. 31,605 (Census Report, 1901.)

Population.—The estimate of 4,980 is based upon a knowledge of the number of inhabited houses.

Births.—81 males, 80 females, total 161, rate 32.3. The number is 2 above the decennial average, but the rate (owing to increase of population) is 1.0 below it.

Illegitimate Infants.—6 were registered among 161 births, or 3.7 per cent. None died; whilst 25 deaths occurred among 155 legitimate infants, or 16.1 per cent.

Deaths.—The number registered in the District was 71, and all belonged to Middlewich. Three deaths of Middlewich residents occurred in the Northwich Workhouse, three in the Winsford Infirmary, and one in the Isolation Hospital at Davenham. The total is therefore 78, and the rate 15.7. This is 0.7 below the decennial average.

Uncertified Deaths.—One: M., 73 years, heart disease

Coroner's Inquests.—Six. January 7th, F., 60 years, scalds whilst intoxicated. February 28, M., 11 years, scalds (fall into hot brine). March 19th, F., 31 years, phthisis. May 26th, F., 61 years, syncope, dyspepsia. August 2nd, F., 55 years, syncope, septicæmia following sting of insect on lip. October 17th, M., 3 months, accidentally overlaid.

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Infantile Mortality.—This is close to the average; 25 deaths of infants (average 24), and a “figure” of 155 (average 150.) This is one of the most unsatisfactory features of successive Annual Reports. Probably half these deaths might have been avoided.

Notification of Births Act.—This Act came into force early in the year. The Council has agreed to make a contribution (£20 it is believed) to the funds of the District Nursing Committee, and the nurse is placed under the instructions of the Medical Officer of Health for this duty of inspection of babies and instruction of mothers. Unfortunately there were several changes of nurse just about this time, and the Medical Officer of Health was unable to give his instructions to the two nurses until rather late in the year. These two nurses remained for the rest of the year; and there is reason to believe that good work has been done. The number of notifications received, commencing May 6th, was 108. Ten of these children died; 7 did not require visiting; 5 were among the canal-boat population; 5 houses were reported on account of dirty and insanitary conditions. There were 7 still-births. The total number of visits paid was 503. Most of these visits were made in the later months of the year, as the nurses became more accustomed to the work; thus in December alone 6 bad cases received 139 visits. There has not been time, therefore, to see whether any improvement has been effected in the infant mortality.

Notifications of Infectious Diseases.—These numbered 72, of which 58 were scarlet fever. There were only two deaths among them, 1 from scarlet fever and 1 from diphtheria. The total has only twice been exceeded since the Notification Act came into force; and only once (as far back as 1893) has there been more scarlet fever. There is probably a connection between this epidemic and the abnormally severe one raging at the same time at Winsford, which is only four miles away.

Isolation Hospital.—Six cases of diphtheria and 37 of scarlet fever were removed to hospital. This is 60 per cent. of notifications. One case of diphtheria died in hospital (within a few hours of admission). At the close of the year, 8 patients remained in hospital, as far as could be ascertained. Two of them date back to September 27th and October 1st. There is no system of notification of discharges, from the hospital authority to the Council's officers, and this is a practical defect which should be remedied.

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Vaccination.—Mr. Worrall, the Vaccination Officer, has kindly furnished the figures for 1908 in Table 17. In the Middlewich Sub-District of the Northwich Union (of which the town of Middlewich forms about two-thirds) in 1908, 169 children were successfully vaccinated out of 189 surviving; or 90 per cent. During the 12 years, 1896–1907, the percentage is 95.

| Year. | Number of Births Registered. | Successfully Vaccinated. | Inausceptible. | Had Small-pox. | Dead Unvaccinated. | Postponed on Medical Certificate. | Removed and Traced. | Removed and Lost. | Conscientious Objections | Unaccounted for. |
|--------------------------|------------------------------|--------------------------|----------------|----------------|--------------------|-----------------------------------|---------------------|-------------------|--------------------------|------------------|
| 1896 | 269 | 242 | — | — | 21 | 3 | — | 3 | — | — |
| 1897 | 267 | 234 | 1 | — | 23 | 2 | 1 | 3 | 3 | — |
| 1898 | 240 | 204 | 1 | — | 21 | 4 | 1 | 4 | 4 | 1 |
| 1899 | 219 | 184 | 3 | — | 23 | 1 | 1 | 3 | 1 | 3 |
| 1900 | 250 | 210 | 1 | — | 26 | — | 1 | 5 | 3 | 4 |
| 1901 | 225 | 195 | 2 | — | 22 | — | 2 | — | 3 | 1 |
| 1902 | 256 | 227 | — | — | 23 | 2 | 1 | 1 | 1 | 1 |
| 1903 | 246 | 211 | — | — | 23 | 1 | — | 6 | 2 | 3 |
| 1904 | 228 | 189 | 1 | — | 27 | 2 | 6 | — | 2 | 1 |
| 1905 | 228 | 205 | 1 | — | 15 | 3 | — | 3 | 1 | — |
| 1906 | 244 | 212 | — | — | 24 | 1 | 2 | 2 | 2 | 1 |
| 1907 | 209 | 183 | 1 | — | 13 | 2 | 4 | — | 2 | — |
| Total in 12 years | 2881 | 2496 | 11 | — | 261 | 21 | 19 | 30 | 24 | 15 |
| 1908 | 207 | 169 | — | — | 18 | 1 | — | 1 | 11 | 5 |

Measles.—Two deaths. No further information.

Scarlet Fever.—One death, among 58 cases notified. With regard to the notifications, a considerable doubt existed as to the correctness of the diagnosis in several cases. One case was subsequently admitted to be measles. These were received at the following dates:—April, 1 case, (removal to hospital); May, 9 cases, (5 removed); June, 2 cases, (1 removed); July, 3 cases, (1 removed); August, 4 cases, (2 removed); September, 9 cases, (9 removed); October, 18 cases, (11 removed); November, 11 cases, (6 removed); December, 1 case, (1 removed).

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Several cases were only discovered when in the peeling stage; on at least one occasion such a child was found in school; with such sources of infection pervading the district, the only wonder is that the cases were not far more numerous.

Whooping-cough.—No information.

Diphtheria.—1 death, among 8 cases notified. No bacteriological examinations were made; nor was the use of antitoxin reported. 6 cases were removed to hospital. 2 cases occurred in March, 2 in June, 1 in July, 2 in November and 1 in December. The great epidemic of 1904-5-6-7, seems now to have finally disappeared; though the number of cases in 1908 and 1909, (9 and 8), is considerably greater than the average of the years preceding 1904.

Enteric Fever.—2 cases, brothers, occurred in May. Both recovered.

Influenza.—1 death, in June; M., 63 years. No other information.

Diarrhœa and Enteritis.—In September one child of six months died from diarrhœa, and one child of three months from enteritis.

Pueperal Fever.—1 case, in May. Recovered.

Erysipelas.—3 cases. Not important.

Phthisis.—6 deaths. M., 61 years; F., 34 years (Work-house); F., 31 years; F., 11 years; M., 6 years; M., 14 months. The last three are rather curious in point of age. Rate 1.2.

Other Tuberculous Diseases.—5 deaths, 4 under one year of age (3 ascribed to peritonitis and 1 to meningitis), and 1 at 38 years ("abdominal tuberculosis.") Rate 1.0:

Cancer.—7 deaths. Rate 1.4. 6 males, 1 female. Ages from 48 to 75 years; average 63 years. Organs affected, stomach, liver, bladder, larynx, lung.

Inspections.—Systematic and frequent inspections were made by the Medical Officer of Health to all classes of property, and in particular to factories and workshops.

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Sanitary Inspector's Report.—Mr. T. Hensall's Report contains the following items of sanitary interest:—

Slaughter-houses.—At the commencement of the year there were 12 registered, 8 of which are used for wholesale slaughtering, and 4 for the home market. The occupiers of one new place have been licensed after satisfying the Medical Officer of Health. The high state of cleanliness noticed in 1908 has still been maintained.

Factories and Workshops.—There are 13 factories, 44 workshops, and 5 bakehouses. These have been regularly visited, and on the whole were satisfactory. In 3 instances there were no Abstracts posted. On calling the occupiers' attention to this infringement, application was made to the Government Inspector for copies of the abstract.

Dairies and Cowsheds.—There are 36 cowsheds, and 7 purveyors of milk, registered in the district. These have been regularly visited, and in 2 instances the owners' attention called to want of air space, and ventilation; and these defects, on the recommendation of your Medical Officer of Health, were rectified.

Scavenging.—This is still carried out on the same lines as in previous years. There are 606 houses still provided with common privies, and these have been cleansed four times in the year. Twenty-one houses have been provided with peat moss pails, and 2 converted into water-closets. The whole of the cleansing is carried out between the hours of 10 p.m. and 5 a.m.

The number of ashbins in the district on December 31st, 1908, was 53, and the number on December 31st, 1909, was 73—an increase of 20 for the year. The number of ashpits is 653, and the number of loads removed was 1,508.

Overcrowding.—There were four cases of overcrowding dealt with, and in two instances notices were served upon the occupants, who removed into more convenient houses without the Council resorting to legal proceedings.

Housing of the Working Classes Acts.—Eight houses were brought under the notice of the Council and referred to the Medical Officer of Health. Notices were served upon the owners. Two of these houses were found to be structurally

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dangerous, and the Surveyor, Mr. Stocks, gave his certificate. These were taken down and replaced with new ones.

New Buildings.—There have been ten new houses occupied during the year.

Sewerage.—During the year the Council have carried out the sewerage of Chester Road from Croxton Lane to the Sewage Disposal Works; Booth Lane from Cledford Bridge to the existing sewer in Brooks Lane, and the portion of St. Ann's Road, where the existing sewer was found to be inadequate.

MOTTRAM-IN-LONGDENDALE**Urban District.**

Medical Officer of Health—DR. W. E. S. BURNETT.

Population at Census, 1901—3,128.

Population estimated to middle of June 1909—3,200.

Area in acres—1,084.

Birth-rate per 1,000 living—17.1.

Death-rate per 1,000 living—14.6.

Death-rate from Zymotic Diseases—0.9.

Deaths under one year per 1,000 births—145.

Population, Births and Deaths.—The population of the district at Census in 1891 was 3,270; and in 1901, 3,128; the decrease in the population during the decennium, 1891—1901, was thus 143.

During the year 1907, the population increased slightly, due to additional employment in the Cotton Mills in the district and to the starting of a small Tape Factory. The estimated population in the middle of June, 1909, was 3,200, and has remained much the same since.

During 1909, the number of births registered in the district was 55 (22 males and 33 females, equal to a birth-rate of 17.1) per 1,000 persons living, and is 3.4 below the mean birth-rate for the previous 10 years—1899 to 1908.

The number of deaths registered was 47, (20 males—including 1 death in Manchester hospital—and 27 females), and gives a

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death-rate of 14.6 per 1,000 persons living, and is 0.5 above the mean death-rate for the previous 10 years.

Infant Mortality.—Eight of the deaths were infants under one year of age, equal to a death-rate of 145 per 1,000 births registered.

These 8 deaths were attributed to the following diseases:—meningitis-dentition 2; enteritis 1; marasmus 2; congenital jaundice—convulsions 1, convulsions 2.

The Principal Causes of Death were:—Bronchitis 1, heart disease 9, pneumonia 5, cancer 3, phthisis 1, scarlet fever 2, other tubercular diseases 4, other causes 22.

It is very satisfactory to note that among the deaths there is only one attributed to phthisis, and none to diarrhœa.

No uncertified deaths were registered.

Inquests.—Five inquests were held during the year.

Infectious Diseases.—There were 29 cases of infectious disease notified, viz. :—Doubtful enteric fever 1, scarlet fever 22, diphtheria 2, erysipelas 3, membranous croup 1.

Scarlet Fever.—Fifteen of the 22 cases of scarlet fever were part of an epidemic that occurred in the latter part of the previous year, and continued until the middle of February, all in the Broadbottom portion of the district. The Schools were kept closed after the Christmas Holidays, until February 8th. The Secondary School was also closed. During the period, one case proved fatal.

In June, a case appeared in Mottram, another in July, two in August, and three more in October. One of the last three cases was contracted at Stalybridge, and, being a malignant type, rapidly proved fatal.

Another case was the child of a milk purveyor. This child was at once removed from the house, and taken to another house where there were no children, and the house, and cab in which the child was removed, thoroughly disinfected, but most of the other cases, both at Broadbottom and in Mottram, were of a mild character.

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Diphtheria and Membranous Croup.—Two cases of diphtheria, and one of membranous croup were notified. The latter proved fatal. There were no sanitary defects found on the premises to account for their occurrence.

Erysipelas.—Three cases of this disease occurred during the year.

Enteric Fever.—There was a doubtful case of this disease in New Street.

Influenza and Mumps.—Influenza was very prevalent during March, and mumps in May, June and July.

Infectious Diseases (Prevention) Act, 1890.—This Act was adopted by the District Council, and came into force in June, 1903.

Public Health Acts (Amendment) Act, 1890.—Part 3 of this Act (containing sanitary and other provisions) was adopted by the Council in 1901.

Water-supply.—The public supply, which is obtained from the Manchester Corporation Reservoirs (Arnfield Springs), is good and plentiful.

Milkshops.—No milkshops in the district. The milk supply is obtained from surrounding farms.

Cowsheds and Dairies.—Regulations under the Dairies, Cowsheds, and Milkshops Order have been adopted by the Council, and came into force on August 1st, 1907.

There are 24 cow-keepers and purveyors of milk registered in the district. The cow-sheds and dairies have been visited quarterly and found clean. Eighteen cowsheds have been reported to the Council for improvements in lighting, drainage and ventilation in 1908, and have since been put into good condition.

Common Lodging-houses.—Only one in the district. This has frequently been inspected and found clean and in order.

Noxious Trades.—The only one is a knacker's yard. This has frequently been visited and generally found clean. These

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premises are very close to the main road, and, complaints having been made of offensive smells arising from bone boiling, the Council sent notice to the owner to discontinue the process, and very little boiling has since been done.

Slaughter-houses.—There are 3 registered slaughter-houses in the district. They have frequently been inspected, and found clean and well ventilated.

Outfall Works.—The outfall works are acting well, and the effluent reported by the Mersey and Irwell Committee Inspector as good. The method of treatment is by tanks, filters and land.

Refuse Removal.—This work is done under contract. The combined privies and ash-pits are emptied monthly, under the supervision of the Sanitary Inspector.

New Property.—Eight new houses have been built. A number of sanitary conveniences have been built and improvements made in others, and plans passed for 22 new houses to be built in various parts of the district.

Inspection of the District.—Periodical inspections have been made by the Medical Officer of Health and Inspector, and in most cases where sanitary defects were discovered they have been remedied.

Factories and Workshops.—There are 4 factories and 37 workshops in the district. Three inspections of each have been made during the year, and they were all found clean, properly ventilated, sufficient air space, and the lavatory arrangements satisfactory.

NANTWICH

Urban District.

Medical Officer of Health—DR. J. D. MUNRO.

Population at Census, 1901—7,722.

Population estimated to middle of 1909—7,962.

Area in Acres—703.

Birth-rate per 1,000 living—23.2.

Death-rate per 1,000 living—15.9.

Death-rate from Zymotic Diseases—1.7.

Deaths under one year per 1,000 births—162.

Births.—In 1909 the births registered numbered 185. In first quarter 48, in second 46, in third 49, and in fourth 42. Of these, 17 were illegitimate, equal to 9 per cent. The birth-rate, 23 per 1,000 population, is very low.

Deaths.—The deaths registered numbered 114, and adding 12 deaths which occurred in the Workhouse Hospital, and one in the Infectious Hospital, of residents belonging to this district, brings the number to 127.

Infant Mortality.—Thirty of the deaths were infants under one year old, viz.:—6 diarrhœa, 1 whooping-cough, 6 debility, 1 malnutrition, 3 bronchitis, 1 premature birth, 6 marasmus, 1 laryngitis 2 congenital heart disease, 1 pneumonia, 1 convulsions, and 1 burnt to death.

The infant mortality, which is at the rate of 162 deaths under one year to 1,000 births, is again abnormally high. This is chiefly due to the deaths from diarrhœa, debility, and that wasting disease called marasmus.

Since the adoption of the Notification of Births' Act, leaflets giving instructions on the feeding and bringing up of children are distributed by the district nurse. All the children born amongst the working class are visited by the nurse, and instructions given as to their treatment.

Diarrhœa caused 7 deaths, 6 of which were under 1 year old.

Lung Diseases.—Phthisis caused 5 deaths, equal to a death-rate of .6 per 1,000. Bronchitis and pneumonia was the cause of death in 25 cases, giving a death-rate of 3 per 1,000.

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Heart Disease caused 18 deaths, equal to a death-rate of 2 per 1,000.

Inquests.—Nine inquests were held during the year, concerning deaths of residents in this district.

The Babies' Day Nursery still continues to do good work, and is much appreciated by many mothers who work in factories. Eighty children have been nursed there during the year, and the attendances made by these children numbered 4,688.

Infectious Diseases.—81 cases were reported, viz. :—67 scarlet fever, 9 diphtheria, 1 enteric fever, and 4 erysipelas.

The deaths from Zymotic Diseases numbered 14, viz. :—1 diphtheria, 5 measles, 1 whooping-cough, and 7 diarrhœa.

The Zymotic death-rate is 1.7 per 1,000.

Enteric Fever.—One case was reported in June and removed to hospital. The disease was contracted outside the district from eating oysters.

Scarlet Fever.—67 cases were notified. No deaths. 50 cases were removed to the Isolation Hospital. Scarlet fever was prevalent during the second quarter of the year.

The Church Schools in Market Street and Wood Street were closed from June 7th to July 3rd, on account of the prevalence of the disease amongst the children attending these schools.

The disease upon the whole was of a mild type, and this was probably the chief cause of the spread of infection. Some of the cases were so mild that the parents scarcely noticed the children were ill, and neglected to call in a medical man.

Most likely some undetected cases were attending school, but Dr. Munro was unable to discover them when he inspected the school children.

Diphtheria.—Nine cases were reported, and five of them were removed to hospital. One case died.

Sanitary defects were found and remedied at nearly all the houses where the cases occurred.

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Measles was epidemic during the third quarter, and five deaths were reported from this disease. The public elementary schools were closed for a fortnight at the end of August, on account of the epidemic.

Whooping-cough.—A large number of cases occurred during the first quarter. One death was recorded, where the disease was complicated by pneumonia.

Erysipelas.—Four cases were reported. No deaths.

The Isolation Hospital at Alvaston has been of great advantage to the district, and the public have been willing to make use of it. Fifty-six cases were admitted from this district.

Disinfection of bedding and clothing is carried out at the Isolation Hospital. Disinfection of rooms is systematically carried out, and disinfectants are supplied to each case reported.

The Small-pox Hospital has been kept in readiness for use, but has not been required during the year.

Water-supply.—The supply from the Baddiley Water Works has been fairly well maintained, but during the dry part of the year there was a scarcity of water, and pumping was resorted to, as in previous years.

New Water-supply.—Negotiations have now been completed and the site acquired. The engineer is proceeding with surveys, and also preparing plans and notices, giving the necessary three months' notice of works to be constructed without the district.

Sewage Disposal Scheme.—This matter is now in the engineer's hands, and plans are being prepared for the Local Government Board enquiry..

Dairies and Cowsheds number ten. The Inspector has made several complaints as to lighting, ventilation, water-supply, and drainage of these, and the defects are receiving attention.

Factories, Workshops, and Bakehouses have been frequently inspected. Ten nuisances have been reported and received attention.

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Canal Boats.—Twenty-nine have been inspected. No cause for complaint was found in any of them.

Tanneries.—An expert has lately visited the tanneries, and reported on the treatment of waste liquids from them. He advises that these liquids shall receive treatment before entering the sewers, and his suggestions are about to be carried out.

Common Lodging-houses.—Number five. These have been regularly inspected, and found clean and orderly.

The Sanitary Inspector has measured and cubed up all the rooms set apart for sleeping, and found some of them overcrowded.

Revised schedules, with the numbers permitted to occupy the respective rooms were drawn up, giving each lodger a minimum of 300 cubic feet air space, and these schedules were hung in the sleeping-rooms.

Registered Slaughter-houses.—Number ten. These have been frequently inspected and found in a cleanly state. One slaughter house in North Crofts has been put on the register.

One case of tuberculosis was discovered in a localised form, and the affected portion of the carcase was destroyed.

NESTON AND PARKGATE

Urban District.

Medical Officer of Health—DR. G. A. KENYON (deceased).

Population at Census, 1901—4,154.

Population estimated to middle of 1907—4,618.

Area in acres—3,267.

Birth-rate per 1,000 living—23.2.

Death-rate per 1,000 living—11.7.

Death-rate from seven principal Zymotic Diseases —0.21.

Deaths under one year per 1,000 births—56.

Population, Births, Deaths, &c.—The population of the Neston and Parkgate Urban District estimated to the middle of the year 1909, is 4,618. This being the population at the last Census with the addition of 8-10ths of the increase during the previous decade.

Neston and Parkgate Urban District.

The births registered during the year number 107 as compared with 120 the previous year, and 126 the annual average of the previous ten years, 1899-1908.

The birth-rate for the year is 23.2 per 1,000 persons living in the district, as compared with 26.3 in 1908, and 29.3 the average of the previous ten years.

The deaths of persons belonging to the district during 1909 number 57, including 3 in the workhouse ; there were none in the Fever Hospital or County Lunatic Asylum.

The number of deaths belonging the district in the previous year was 54, and the annual average for the previous ten years 64. The death-rate for 1909 is 12.3 per 1,000 persons living in the district.

The deaths under one year of age per 1,000 births registered during 1909 in the district is 56, as compared with 75 in 1908, and 120 in the previous ten years.

The causes of death include :—

| | |
|------------------|---|
| 2 from influenza | 1 from diarrhœa in an aged person (78) |
| 4 from phthisis | 4 from cancer |

There was no death from ordinary infectious disease of any kind except influenza. The number of deaths from pneumonia was much larger than in the previous year. In eight cases it was associated with influenza.

Infectious Diseases.—Under the Notification of Infectious Diseases Act the only cases reported were 2 of diphtheria and 4 of scarlet fever. Five of the cases were removed to hospital.

Phthisis.—Under the New Tuberculosis Regulations of 1908. Four cases of phthisis were notified, 3 of them as having been removed to Clatterbridge and one to Birkhamstead workhouse from your district. All the cases were investigated, and exclusion of children from school, from infected houses for a time ; and disinfection was duly attended to in the ordinary notified cases. In one of the cases of phthisis, however, the patient had had only a passing stay in Neston, and seems not to have slept in any dwelling house ; and another case had been six months in the

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workhouse before he came to be notified. In the other cases of phthisis, the rooms, bedding, &c., were caused to be thoroughly cleansed.

Sanitary Inspections.—Inspections of the district were made by the Medical Officer of Health in January, July, September, and October, reporting specially on the old cottage property in Nelson, by request of the Council. In January, the Medical Officer attended at the Police Court in support of a summons for occupying premises as a slaughter-house without the consent of the Council, the premises being unsuitable for the purpose. The defendant was fined £2 and costs, £2 with an intimation that a similar fine would accrue every day the use was continued. The building was forthwith disused.

The effect of the late Dr. Kenyon's Report on the old cottage property was that it was in fair repair, and, the surroundings generally being good, was serving a useful purpose.

Adoptive Acts.—The Infectious Diseases Prevention Act of 1890 is in force in the district since February, 1901. The following parts and sections of the Public Health Acts Amendment Act, 1907, are in force since February 4th, 1909, viz: Part II., Part III., Part IV. Sec. 52-60 and 62-68, Part V., and Sec. 95 in Part X.

As regards Part III. of the last-named Act, 15 privies have been converted into water-closets, a very large proportion of the closets in the district are privies. This arises from the peculiar circumstance that a large proportion of house owners are of small means. Every possible opportunity has been taken to get conversions effected.

Slaughter-houses.—The Inspector visits slaughter-houses at the time of slaughtering, but has not found it necessary to condemn any meat during the year. There are three slaughter-houses in the district. There is no Inspector with a special certificate in meat inspection.

Dairies, &c.—There has been no special need for causing dairy cows to be examined by Veterinary Surgeons. Owing to the defective state of the law, there is little advantage afforded if this were done, for want of means of dealing effectively with diseased cows when discovered.

Neston and Parkgate Urban District.

Water-supply.—The district continues to derive a supply of excellent water from its own Waterworks, obtained from deep wells.

New Houses.—During the year 13 new houses have been erected, and have been supplied with water by the Council.

Sewerage.—The district is well supplied with sewers. The sewage of Neston and Little Neston is dealt with by suitable outfall works (bacteria-beds). The sewer at Parkgate discharges into tidal waters. The outlet is quite clear, and the sewer has been thoroughly cleansed, and is flushed periodically by means of a private swimming bath containing 18,000 gallons of water let off through a 6 inch pipe into the sewer.

The sewers of the district generally are flushed regularly by automatic flushing chambers, or horse flushing tank.

Refuse Removal.—3370 tons of refuse were removed from privies and ashpits to tips upon agricultural land.

Cemetery.—During the year there have been 17 interments, all of which were in the consecrated portion of the ground.

Building Bye-laws are in force in the district.

Sanitary Inspector's Report.—As Sanitary Inspector, Mr. Senior reports that 12 complaints were made to him during the year ; 263 houses and premises have been inspected and 928 re-inspections made ; 39 notices have been served ; 13 houses, &c., have been cleansed, repaired or whitewashed ; 11 houses disinfected after illness of an infectious character ; 56 house drains repaired, cleansed, &c. ; 7 house drains ventilated ; 12 privies or water-closets repaired ; 15 privies converted into water-closets ; 3 new closets provided for old houses ; 314 communications were received with regard to removal of ashes and refuse ; 11 removals of accumulations of dung, stagnant water, animal and other refuse were effected ; 5 animals removed being improperly kept—in regard to one of these legal proceedings were taken and an order granted with costs ; 2 cases of overcrowded dwelling-houses were caused to be abated ; 8 bakehouses, 26 cowsheds and dairy premises, and 3 slaughter-houses were regularly inspected.

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Factory and Workshops Act.—75 visits of inspection were made, and 3 written notices served, all for want of cleanliness, and all remedied.

There are no outworkers in the district. Besides the factory laundry there are 29 other workshops and workplaces.

NORTHWICH**Urban District.**

Medical Officer of Health—DR. H. E. GOUGH.

Population at Census, 1901—17,611.

Population estimated to middle of 1909—19,900.

Area in acres—1,758.

Birth-rate per 1,000 living—24.2.

Death-rate per 1,000 living—12.3.

Death-rate from seven principal Zymotic Diseases—.50.

Deaths under one year per 1,000 births—101.

The Urban District and Township of Northwich now includes what were formerly the parishes of Witton-cum-Twambrooks, Northwich, and Castle-Northwich, and parts of the parishes of Hartford, Leftwich and Winnington, and its population estimated to the middle of 1909 is 19,900, an increase of 350 over the population of 1908. The excess of births over deaths was 203. The birth-rate continues to be double the death-rate.

Births.—The total number of births registered was 482, giving a rate of 24.2 per 1,000. This is an increase of 7 over the number for the previous year, and gives a rate per thousand of 24.2, which is the same as last year.

Of these births, 248 were males, and 234 females. The number of illegitimate children born was 19, which is equal to a rate of .95 per 1,000, or almost 4 per cent. of the births.

Deaths.—The actual number of deaths was 245, which is less than that for the previous year by 46, the rate per 1,000 is 12.3, which is 3.2 below the 10 years' average.

Thirteen of these deaths occurred in the Union House, and 4 in the Victoria Infirmary, and in addition to these there were 25

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other deaths in these two Institutions of persons not belonging to this district; these are credited to the districts to which they belong.

The number of deaths of infants under one year was 50, from zymotic diseases 14, while of persons over 65 years old there were 72 deaths.

There were 6 deaths from phthisis and 4 from other tuberculous diseases, 13 from cancer, 33 from diseases of the lungs, 1 from alcoholism, 1 from venereal disease, 14 from premature birth, 2 from confinement, 25 from heart disease, 12 from accidents, 1 from suicide, 37 from old age, and the remainder from various other causes.

Inquests were held upon 22 deaths; 2 of these were from burns and scalds, 3 from drowning, 3 from falls, 1 from strangulation (suicidal), 1 from lockjaw, and 1 from fainting after injuries, 4 were "found dead in bed," the remainder were from various natural causes, such as heart disease, premature birth, pneumonia, old age, &c.

Illegitimacy.—Nineteen illegitimate children were born, and 3 died during the year; of the latter all were females, and their ages respectively 9 hours, 4 days, and two months, the causes of death being convulsions, premature birth and diarrhœa; their mothers were described as charwoman, no occupation, and domestic servant.

Consumption.—There were 6 deaths from consumption of the lungs, and 4 from consumption of other organs. Notification is not in force beyond the Poor Law Order of the Local Government Board, under which one notification was received. Disinfection of houses is performed when a case is notified, when a death is registered, and whenever requested, sanitary inspection of houses is also made under these circumstances, and patients and their friends given advice as to spitting, &c.

Infantile Mortality.—The number of deaths of infants under 1 year of age, registered during the year was 50, which is 25 less than that for 1908, and 34 less than the 10 years' average. The rate per 1,000 births is 101, the lowest for over ten years.

Of these deaths 6 were from zymotic diseases, 1 from gastrointestinal catarrh, 13 from premature birth, 3 from congenital

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defects, 8 from marasmus, one from venereal disease, 6 from convulsions, 7 from bronchitis, 1 from pneumonia, 1 from "overlying," and 3 from other causes.

There were no uncertified deaths.

The reduction of the infantile mortality to 10% of births is a matter for congratulation, the reasons of it being that diarrhœa and whooping-cough have not been prevalent, and also to the activity of the local branch of the National Society for the Prevention of Cruelty to Children. The 13 deaths from premature birth are suspicious, and could, probably, be lessened by the suppression of all advertisements for the benefit of "women's diseases."

On receipt of every infantile death a visit is made by the Inspector to the premises, and a report of all the circumstances made and recorded.

Zymotic Diseases and Deaths.—The number of cases of infectious diseases notified during the year was 164, which is a decrease of 46 upon the previous year. Of these, 128 were scarlet fever, 19 diphtheria, 15 erysipelas, and 1 each enteric and puerperal fever. It is noticeable that 96 of the cases occur at the school ages between 5 and 15 years, while at all other ages only 61 cases are shown.

Of the 39 cases sent to hospital, 38 were scarlet fever and 1 diphtheria, 15 during the first quarter, 11 during the second, and 13 during the third.

The zymotic deaths numbered 14—3 being from influenza, 1 from whooping-cough, 5 from diarrhœa, 1 from enteric fever, and 4 from scarlet fever. The enteric fever case was dead when notified, and the report from Professor Delépine upon the blood was negative. Of the 4 deaths from scarlet fever, 1 occurred in the Isolation Hospital.

Fourteen reports were received from Professor Delépine, of which 3 negatived enteric fever, 4 negatived diphtheria, and 7 affirmed it. Antitoxin is supplied gratis to any necessitous case of diphtheria.

School Closure.—During the spring an epidemic of measles and mumps visited the district together, and were so prevalent

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amongst the scholars of the Park Street Infants' and Castle Girls' Schools, that they were closed from February 8th and 10th respectively, until February 27th. This had a most marked effect upon the progress and seemed to enfl the epidemic.

School disinfection has been carried out systematically, all the schools in the district having been twice disinfected during the year.

Housing and Overcrowding.—There has been a considerable amount of building during the year. The total number of new houses built being 58. Some 6 houses have been pulled down during the year, and 4 others have been condemned as unfit for habitation. The Medical Officer of Health remarks :—

“The housing question is one of the most urgent of all sanitary reforms, and it is almost impossible to grapple with it for the following reasons.

“The modern requirements for new houses are so great, that none are ever built which are let at less than 4/6 to 5/6 a week. There are hundreds of people with families who get at the most £1 a week, and frequently not so much, and it is obvious that they cannot pay more than 2/6 to 3/- a week, if that. They are obliged to live somewhere, and consequently all the old two, three and four roomed cottages, which are usually situated in courts and alleys with common yards and sanitary conveniences, are eagerly sought after, because of their cheaper rent, and for similar reasons overcrowding is common.

“Frequently tenants from houses which have been pulled down, have been pursued by the sanitary authority through 2 or 3 different domiciles which they have overcrowded.

“In this district overcrowding is present, and one instance is as follows : a family of 6 children of whom the eldest is ten years of age, together with their father and mother, are now living in a 3 roomed house, for which they pay 2/6 per week. The average wages of the man have been 15/- a week for very many months. What is to be done? turn them out! they cannot get a house any bigger because they can't pay for it; they can't get one the same size because none are vacant, and it is pretty certain that nobody wants them as tenants. What would be your own feelings, fair reader, if, with ample cash and large credit, you got 14 days notice to quit? Then if you can try to realise what you are to do, having

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neither credit nor cash, with 6 little children, and no roof to cover you.

“There is something illogical in the working of this “Public Health Problem,” and some other remedy must be found. One which would go far to mitigate the worst of the evil could be attained by revising the bye-laws, so that smaller houses might be built, and the municipal authorities might be the bankers for or owners of such property. I have ventured to make one or two suggestions on this subject in my report to the Rural District Council, which are also applicable to this Urban District.”

Water-supply.—The whole of the domestic water-supply is from Cote Brook, and in addition to this there is a trade supply from both Castle Wells and Wade Brook.

The re-arrangement of mains in the higher part of the district has proved most beneficial, the houses not having been short of water once since the work was done.

There are no complaints as to action of lead; the domestic water is hard, but of great purity.

Six analyses have been taken during the year.

Sewerage and Sewage Disposal.—No extensions of the system were carried out during 1909, but there is a portion of London Road which is at present without a proper system of sewers; this is to be included in a scheme which is now under consideration, and for which application has been made to the Local Government Board.

The treatment of the sewage at Winnington and Witton is on the septic tank principle, and no complaints have been received with regard to them.

Adoptive Acts.—The Adoptive Acts which are in force in this district are the Infectious Diseases Prevention Act, the Public Libraries Act, the Baths and Wash-houses Act, the Private Street Works Act, 1892, and the adoption of the Public Health Amendment Act is under consideration. The Notification of Births Act was not adopted, and as the infantile mortality is unquestionably improving, and as every child is attended at its birth by either a qualified medical practitioner, or a registered

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midwife, who are quite competent to advise as to its welfare, there does not appear to be any need for further interference at present.

Bye-Laws are in force relating to new streets and buildings, common lodging-houses, slaughter-houses, offensive trades, nuisances, carriage of filth, the last having been adopted only this year. The report of the Sanitary Inspector contains the following items of sanitary interest.

Scavenging.—The work of scavenging the town is now carried out under one contractor, and by one set of men. This is an invaluable improvement. The work is carried out in a much more efficient manner than it ever has been. The trade refuse has been responsible for a little friction at times, but this has now disappeared. The contractor ordering his men to remove all small amounts of refuse, and in case of large quantities a satisfactory arrangement is made between tradesman and contractor.

I have not served the contractor with a written notice since the 6th of June, verbal notices being complied with at once.

This obviates the necessity of serving any special notices, and reduces the unpleasant reports and complaints that have been so prevalent in the past.

Another improvement is the cleanly way the work is carried out, and very rarely have I had to complain of any carelessness on the part of the men.

During the year the scavengers have removed about 3,000 loads of dry ashes, and 700 loads of excreta, at a cost of £1,080. This is a reduction of £55 on last year.

Sanitary Pails.—There have been 127 issued from the Council's stores during the year. This is a slight reduction on last year, but 48 of these were renewals; there were 18 more renewals than last year. The cost of this year's renewals was £18, and 1,650 sanitary pails have now been sold by the Council. Eighty pail closets have given place to water closets.

Demolition of Property.—Six houses have been demolished during the year, as they were unfit for habitation through

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subsidence, and various other causes. Six others have been condemned, four of these are being remodelled and ventilated, and the other two will be demolished at an early date.

I have served 22 legal notices on property owners during the year, which have had the desired effect of improving the property.

Lodging-houses.—There are six common lodging-houses on the register. These have been visited both by night and day at various times during the year. Four of these have been reported for filthy bedding, and one for overcrowding. One was re-registered and two condemned as unfit for habitation owing to the dilapidated state of the walls and floors. Two houses are to be demolished at an early date.

Slaughter-houses.—There are 11 slaughter-houses on the register. These have been visited periodically during the year; one was abandoned; the floor of one was taken up and relaid, and the floor of another had to be grouted with cement through the effect of subsidence; two were reported for the filthy state of the floors, walls, and utensils; the drains of one were found to be defective, and this was taken up and relaid, and a new gully fixed to the yard; one was reconstructed on the most up-to-date principle.

Manure Heaps.—These have given less trouble during the year, only 14 written notices and four verbal notices having been given. The nuisances were removed at once, mostly during the early hours of the morning; when this work is carried out in the early morning, it prevents complaints being made as to foul smells arising during the removal. The fishmongers of the district have adopted the suggestion of the Council, and provided covered tins for their refuse matter, and this is removed once or twice a week as necessity arises.

Dairies, Cowsheds and Milkshops.—There are 12 cow-keepers in the district. I have paid these premises 35 visits; 2 wanted lime-washing; 1 lime-washing and cleansing; and 2 were short of ventilation. This work was carried out at once,

One cow-keeper has removed from the district, and the premises are being used for other purposes; and in another case of removal the land is being used for building purposes.

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There are 14 milk-shops within the district, and 15 purveyors of milk who bring milk from other districts. These have all been entered on the register, and their premises inspected, and found to be in good order. Scarlet fever was notified from one of the premises outside the district, and steps were immediately taken to stop milk being retailed in the district from these premises.

Canal Boats.—There are no canal boats plying along that part of the river which is in the Council's district. The boats so plying come under the Merchant Shipping Act. One boat was sent to this district from the Manchester Ship Canal for repairs, and this I inspected and passed after the repairs were carried out.

Factories and Workshops.—There are 184 factories and workshops on the register—Four less than last year. The decrease was caused through the closing of a sewing factory, and the stoppage of a boat building yard through depression of trade, and removal from the district and depression of trade was responsible for the closing of two mineral water factories for a time.

The sanitary work started in the early part of the year in two of the factories has been completed to my satisfaction. The sanitary arrangements in connection with one of the iron foundries have been repaired and re-arranged. A confectionery shop was reported by the factory inspector as requiring lime-washing. One bakehouse had to be removed through subsidence; four sausage factories were lime-washed and cleansed by order of the Council. The whole of the bakehouses have been visited and ordered to be lime-washed, and in two cases the floors to be cleansed and relaid. Scarlet fever was notified from the premises of one of the bakehouses; this was at once isolated and the premises disinfected.

Unsound Food.—I make a weekly inspection of slaughter-houses, butchers shops, and the market, for the purpose of meat inspection, and in no case have I had to complain of the quality of the meat. The fish shops have also been visited weekly, and no grounds of complaint found.

RUNCORN

Urban District.

Medical Officer of Health—DR. F. McDOUGALL.

Population at Census, 1901—16,491.

Population estimated to middle of 1909—18,000.

Area in acres—1,275.

Birth-rate per 1,000 living—26.7

Death-rate per 1,000 living—14.0.

Death-rate from seven principal Zymotic Diseases—0.83.

Deaths under one year per 1,000 births—156.

Population.—The population of the Urban District is estimated, as at midsummer, at 18,000.

Births.—Four hundred and eighty-one births were registered during the year. Five hundred and seventeen births were registered during the preceding year, showing a decrease of 36 births for the year under review. For the year 1907, 537 births were registered, and for the year 1906, 508 births, and for the year 1905, 549 births were registered. These figures are not particularly promising as a very hopeful sign of a prospective increase in the population. Taking the population at last year's estimate, the birth-rate stands at 26.7 per 1,000 of the population.

Deaths.—There were 253 deaths from all causes registered within the district of the Urban Council of Runcorn for the year ending December, 1909; and for the previous year, 246 deaths from all causes were registered, an increase of seven deaths for the year 1909, over 1908, but a decrease of 59 deaths over 1907.

Infantile Deaths.—Seventy-five deaths of infants under one year of age were registered. Sixty-two deaths were registered in the same class, during the year 1908, an increase on the year of 13 deaths. Sixty of the deaths were due to the following causes: wasting diseases, 13; tubercular diseases, 8; convulsions, 20; pneumonia, 8; premature birth, 11; and the remaining 15 to various infantile diseases.

Deaths at other Ages.—Twenty-two deaths of children of one year and under five were registered, and in this class 35 deaths were registered during the preceding year, a decrease of 13 on the year. One death was due to scarlet fever, one to diphtheria, four to bronchitis, and the remainder to children's ordinary diseases.

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Twelve deaths at ages of five years, and under 15 years, were registered during the year. Ten deaths were registered in the same class during the year 1908. Two of the deaths were due to scarlet fever, and two to enteric fever, and the deaths of the remaining eight were due to various causes, and of no special interest.

At ages of 15 years, and under 25 years, 11 deaths were registered during the year. Eight deaths were registered in the same class during the previous year. Four of the deaths were due to phthisis, and three to enteric fever, and the other four deaths were due to ordinary causes.

Seventy-four deaths of persons of 25 and under 65 years of age were registered during 1909, and for the year 1908, 76 deaths were registered in this class, a decrease of two in favour of 1909.

Fifty-nine deaths of aged persons of 65 years and upwards were registered during the year 1909. Fifty-five deaths in the same category were registered during the preceding year, an increase of four deaths in this class over that year. As usual diseases of advanced life account for the greater number of these deaths.

Scarlet Fever.—Three deaths from scarlet fever were registered during the year. Two deaths from the same cause were registered during 1908. Although the very large number of 111 notifications were received, almost bordering on an epidemic, it is noteworthy to observe that there was so few deaths from this cause pointing to the mildness of the disease, and for several years past now this has been a prominent feature of scarlatina.

Measles.—Measles is not a notifiable disease and no death from this cause was registered during the year.

Enteric Fever.—Nine deaths from enteric fever were registered during the year. Six deaths from the same cause were registered during the previous year, an increase of three which, makes a considerable increase in the death, rate from this cause for the year, although it keeps pretty much about the average for a number of years back.

Diphtheria and Membranous Croup.—One death from diphtheria was registered, and one from membranous croup, a very

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favourable death rate in view of there being 51 of the former and four of the latter cause of disease notified.

Phthisis.—Fourteen deaths were registered during the past year, and seven deaths from the same cause were registered during the previous year, an increase of seven. Eight of these deaths were of persons between the ages of 25 and 65 years.

Continued Fever.—No deaths were registered during the year as due to this cause.

Erysipelas.—One death from this cause was registered during the year, a young infant aged 15 days. This was probably one of those rare cases of infantile erysipelas. No death from this cause was registered during the preceding year.

Whooping-cough.—There were no deaths from whooping-cough registered during the year. Three from this cause were registered during the preceding year.

Diarrhœa.—Two deaths were registered from this cause during the year. One death was that of an infant under 12 months old, and the other death was that of a young child between one year and five years old, six deaths from the same cause were registered during the preceding year.

Infectious Disease.—254 notifications were received, notifying 250 cases of notifiable disease, as against 237 notifications received during the preceding year, an increase of 17 notifications.

Scarlet Fever.—111 notifications of scarlet fever were received during the year, notifying 110 cases as compared with 52 cases notified during the year 1908, or an increase of 49 notifications. 7 cases were notified during the month of September, 18 during the month of October, 37 during the month of November, and 33 for the month of December, and for the month of August four cases were notified. For the months of January, February, and April, the remaining 10 cases were pretty evenly distributed; the months of March, May, and July, remained blank. It will be noticed that the increase in the cases of scarlet fever notified began with the re-opening of the schools after the midsummer holidays, and to this cause probably must be attributed the increase in the number of cases notified. The fever

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did not at any time actually assume the character of an epidemic, and was of a very mild type, with a very low death-rate. Possibly a number of mild cases may have escaped detection, and this is always an important factor in the spread of this rather subtle disease.

Membranous Croup.—Four cases of membranous croup were notified during the year. Three cases were notified during the preceding year, an increase of one case. Two of the cases notified were notified during the month of March, and of the other two cases notified, one was notified in February and one in October.

Erysipelas.—Eleven cases of erysipelas were notified during the year, 25 cases were notified during 1908, a decrease of 14 cases as compared with the preceding year. Six of the eleven cases were notified during the months of October and December.

Puerperal Fever.—Two cases of puerperal fever were notified during the year, three cases were notified during the preceding year, a decrease of one.

Continued Fever.—Seven notifications of continued fever were notified during the year, and for the year 1908, ten notifications were received. There is nothing about these cases calling for special attention, they were probably of a mild type of enteric fever.

Diphtheria.—Fifty-one notifications were received during the year, notifying fifty cases. Seventy notifications of this disease were received during the year 1908, a net decrease of notifications on that year of 19. It is satisfactory to observe that the cases of diphtheria notified have been getting fewer for several years past, and for the year under review the cases notified were pretty evenly distributed over the whole year with the exception of the month of January, when no case was notified.

Enteric Fever.—Sixty-eight notifications of enteric fever were received during the year notifying 66 cases, as against 74 notifications received during the preceding year. Twenty-five notifications were received during the month of March, April seven, May nine, October eight, and November four, and the other 15 cases were distributed over the remaining seven months of the year. Six houses had 16 cases distributed between them; in one instance there were five cases notified from one house. All

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the five cases were removed to the Isolation Hospital. This last was a case of flagrant overcrowding ; there is little doubt about the disease having been imported at the outset.

House Accommodation.—During the year, some new houses have been built, which adds to the house accommodation. Some of these are of a better class. The repairing and improving of old houses appear to go on much as usual ; there seems to be the required supply of cottage houses available.

Sewerage.—During the year the intercepting sewer has been extended to Halton, a country village about two miles distant, and to the east of the Urban District. The extension has been affected by an agreement with the Rural Council. The extension drains the several works on the route, but at all the works settling tanks have been put down to prevent any works refuse getting into the sewer. There is nothing new to report about the drains of the town. All the drains of the town empty into the intercepting sewer, which dips under the Manchester Ship Canal to the west of the town and discharges into the River Mersey, with the exception of one that drains the outskirts of the town. It dips under the Canal and discharges into the River Mersey about a mile to the west of the town. These sewers are under constant supervision and inspection.

Excrement Disposal.—The privy and ashpit system is still to the fore, although it is giving place slowly to more modern methods, and water carriage is adopted where possible. All new property has to be provided with water carriage. Privies and ashpits are subject to frequent emptyings and bargeing up the canal has been for some time the most common method of disposal. Thirty-five water-closets were substituted for privies during the year.

Water-supply.—The water-supply of the district is now quite plentiful and of good quality, and no cause of complaint has reached me during the year.

Factory and Workshops Act, 1901.—The number of workshops inspected this year amount to 61. Under the following heads the general conditions as found are stated in workshops and work places :—

- a. Cleanliness on the whole has been as good as in former years. Where cleansing was required notices have been served.

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- b. Air space. Sufficient in each case.
- c. Ventilation. The same difficulty is found each year to get the people to use the ventilation which is provided for them.
- d. Draining of floors. There were no complaints about wet floors.
- e. Sanitary accommodation. Notices have been served on four firms to provide improved sanitary accommodation.

The rules and regulations have been observed in regard to bakehouses.

Home-workers.—Nothing other than domestic workshops are in use.

List of out-workers.—There are six out-workers in connection with the industries of the town. Proper forms have been filled up by the employers concerned. The register has been kept as directed.

Meat Inspection.—Meat inspection has been carried on in a very systematic manner throughout the year, and no cause of complaint reached me.

Common Lodging-houses.—The two surviving common lodging-houses are now under one management, much to the advantage of all concerned. These are under constant supervision. To all appearance they are now conducted in a perfectly satisfactory manner.

Cowsheds, &c.—These have been regularly inspected and no cause of complaint discovered.

SALE

Urban District.

Medical Officer of Health—DR. OLIVER WITHERS.

Population at Census, 1901—12,088.

Population estimated to middle of 1909—16,000.

Area in Acres—2,006.

Birth-rate per 1,000 living—22.8.

Death-rate per 1,000 living—12.0.

Death-rate from seven principal Zymotic Diseases—1.0.

Deaths under one year per 1,000 births—107.

Population.—This is now estimated to be 16,000, an increase of approximately 33 per cent. on that of 1901.

Births, Deaths, &c.—During the past year there were 365 births in the district, 194 males and 171 females, giving a birth-rate of 22.6 per 1000 per annum; 193 deaths, 99 males and 94 females were registered during the same period, including 20 deaths registered outside the district, giving a death-rate of 12.0 per 1000 per annum. There were 16 deaths from epidemic disease, giving a death-rate or zymotic-rate of 1.0 per 1,000 per annum. Excluding the deaths occurring outside the district, the death-rate was only 10.0 per 1,000 per annum. Of these deaths 17 were reported from the Workhouse, two from the Manchester Royal Infirmary and one from the township of Eccles.

Infectious Disease.—93 cases of infectious disease were reported during the year: 11 of diphtheria, 10 of erysipelas, 66 of scarlet fever, five of typhoid fever, and one of puerperal fever.

Diphtheria and Membranous Croup.—One of these cases was removed to Baguley, and three of them had a fatal termination.

Erysipelas.—These were of the usual mild type.

Scarlet Fever.—Twenty-six of these cases were removed to Baguley. There was only one fatality from this disease. The cases were generally of a very mild type, and several of them were undiscovered in the first instance.

Typhoid Fever.—One of these cases was removed to Monsall, and all ended in recovery.

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Epidemic Diarrhœa.—Owing to the comparative coldness and heavy rains of the past summer, there were few cases of this disease, and only two deaths were reported—a marked contrast to the record of the previous year, when 20 deaths occurred during the autumn months from this disease alone. There were 9 deaths from measles and 1 from whooping-cough.

Infant Mortality.—There were 39 deaths in infants under one year of age, giving a death-rate of 106·8 per 1,000 of the births registered, 6 of these were due to premature birth, 6 to infantile wasting, 6 to convulsions, and 7 to bronchitis and pneumonia.

School Closure, &c.—In March it was found necessary to close the Worthington Road Schools for three weeks, on account of the epidemic of measles, and at Easter, St. Joseph's Schools were closed for the same reason; at the beginning of April, St. Ann's, and the Springfield Schools, were also closed, and the Worthington Road Schools had to be closed for a further period in July.

Phthisis.—Houses were visited where cases of consumption were known to be present, or where deaths from that disease had occurred, and advice given to the hygienic management of cases and disinfection of room.

Sewage Disposal.—The sewage works were carefully inspected, and found to be in a satisfactory state. The effluent was quite odorless and clear, and only contained a very slight flocculent sediment. Analysis proved it to be remarkably pure. This is certain evidence of the value of the method of purification adopted, viz.:—that by chemical precipitation and subsequent filtration.

Water-supply.—The water supplied by the North Cheshire Water Company has been plentiful in quantity and excellent in quality.

Dairies, Cowsheds, &c.—The milk supply of the district has been good; the cowsheds and dairies have been frequently inspected, and any defects found have been remedied.

Sanitary Inspections.—The Sanitary Inspector has worked assiduously during the year, and any defects found by him

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or the Medical Officer of Health have been rectified as speedily as possible.

Canal Boats.—During the year 130 canal boats were inspected; three of these were condemned for infringing the rules with regard to painting, and two for being in a dirty condition. The complaints were satisfactorily dealt with.

SANDBACH

Urban District.*

Medical Officer of Health—DR. R. RIDDELL.

Population at Census, 1901—5,558.

Population estimated to middle of 1909—5,556.

Area in acres—2,694.

Birth-rate per 1,000 living—27.2.

Death-rate per 1,000 living—12.4.

Death-rate from seven principal Zymotic Diseases—0.17.

Deaths under one year per 1,000 births—80.

General Features.—Sandbach is mostly on a sandy soil with the smaller part clay. The inhabitants of the district are chiefly employed at chemical works, motor wagon works, wire works, silk and fustian works, in the boot trade and agriculture. None of these trades, in the opinion of the Medical Officer of Health, are detrimental to the health of the inhabitants of the district.

Population, Births, Deaths, &c.—The population is estimated to have remained practically stationary since the census of 1901.

There have been 152 births, 76 boys, 76 girls, 9 of them being illegitimate. Last year there were 153 births, 87 boys, and 66 girls.

There have been 69 deaths during the year making an average per thousand of 12.4, against 86 deaths last year with an average of 15.4.

There have been 12 deaths of children under one year of age, against 17 last year. Causes of the 12 deaths being as follows,

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viz. :—Premature birth, 1 ; debility, 4 ; tubercular disease, 1 ; convulsions, 1 ; bronchitis, 1 ; pneumonia, 2 ; suffocation, 1 ; all other causes, 1.

Infectious Diseases.—There have been during the year 32 cases of scarlet fever and three of diphtheria. All the diphtheria cases and 17 of the scarlet fever cases were removed to the Isolation Hospital, and all the bedding and clothing of the patients from their houses have been sent to the Isolation Hospital for stoving and disinfecting. All the houses themselves have also been disinfected. There have been no deaths from infectious disease. The majority of the scarlet fever cases have occurred during the last three months and unhappily there are still a few cases cropping up in different places in the district.

Isolation Hospital.—The Medical Officer of Health states—“This Hospital has now been erected and is working splendidly. It is under the combined bodies of the Congleton Rural and Borough, Alsager Urban and Sandbach Urban Councils. It is situated at West Heath, Congleton, and consists of three pavilions containing 30 beds, 16 for scarlet fever, 8 for typhoid and diphtheria, and six for observation cases. We at Sandbach have unfortunately been obliged to use it for scarlet fever freely during the last six months, and I must congratulate the Committee, Medical Officer and Matron, on the willing way and the painstaking efforts they have shown in the removal and treatment of the cases we have sent. All the cases we have sent have returned in perfect condition and health through the kindness and attention they have received while being there.”

Smallpox Hospital.—Is at Arclid, and consists of two pavilions, with 10 beds in each, for the sexes. It is in constant working order, and ready for use at any time.

House Accommodation for the Working Classes.—There is plenty of it, the houses are in a good state of repair, with plenty of air space ; no cases of overcrowding have been reported during the year. There have been two new houses built in the district, both connected with sewer, and supplied by town's water.

Lodging-houses.—There are three registered. These are inspected frequently, and are clean and well whitewashed, with ample accommodation for the demand.

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Slaughter-houses.—There are six. These have been visited, and found to be perfectly satisfactory.

Ashpits and Closets.—These are attended to by the Council's own men and carts, and the system of removal seems to work very well indeed.

Dairies and Milkshops.—The bulk of the milk of the district is sold to milk factors at Sandbach and Middlewich. That portion of it used in the district is bought directly from or delivered by farmers. There has been no prosecution for adulterated milk during the past 10 years.

Cowsheds.—These have been visited and everything found to be in a very satisfactory condition.

Factories and Workshops.—Being certifying factory Surgeon, I have many opportunities of visiting factories; I have found them to be in a very clean state, well whitewashed, privy accommodation ample, and in the case of fire sufficient outlets. There have been no new factories or workshops erected during the year.

Bakehouses.—There five bakehouses, none of them being underground, and all are healthy and well ventilated.

Water-supply.—This comes from an upland source by two mains, 10 and 7-inch, one only being used at a time, so that during cleansing purposes no inconvenience is caused to the townspeople. It is treated by Clarke's process, and is in every way a good sound water, and thoroughly reliable for domestic purposes.

Meat Inspection.—This is carried out by a Local Committee. No unsound meat has been detected, and no prosecutions have taken place during the year.

Sewerage System.—This was minutely described in last year's Report. Everything seems to be in good working condition at the Sewerage Works. The effluent is of a very high standard, and the sewage of the town is being treated in a very satisfactory manner.

TARPORLEY

Urban District.

Medical Officer of Health—DR. G. A. KENYON (deceased).

Population at Census, 1901—2,644.

Population estimated to middle of 1909—2,600.

Area in aeres—6,195.

Birth-rate per 1,000 living—24.2.

Death-rate per 1,000 living—12.3.

Death-rate from seven principal Zymotic Diseases—0.38.

Deaths under one year per 1,000 births—142.

This Annual Report has been prepared by Dr. Vaehar, late Medical Officer of Health for the County.

Population.—The population was 2,702 at the Census in 1891, and 2,644 at the Census in 1901. The decrease in the population during the decennium 1891–1901 was thus 58, just over 2 per cent. The estimate of population made for the middle of 1909 is 44 less than the Census population in 1901.

Births, Deaths, &c.—During 1909 the births registered in the district numbered 63, and the deaths registered in the district numbered 32. To the deaths must be added one in a public institution outside the district. Thus the deaths belonging to the district were 33. The birth-rate is 24.2, that is 0.4 below the average in the district in the ten years, 1899–1908. The death-rate is 12.7, that is 1.6 below the average in the district in the same ten years.

Nine of those who died were under one year, and twelve were persons 65 years old and upwards.

Of the infants born 38 were boys and 25 were girls. Of those who died 18 were males, 15 were females. Eight of the infants born were illegitimate.

Infantile Mortality.—As nine of those who died had not completed their first year, the infantile mortality rate was equal to 142 per 1,000 births. This is 52 above the average rate in the district.

Infectious Disease.—No cases of infectious disease were notified during 1909. Among the deaths was one from whooping-cough, one from phthisis, one from other tuberculous disease, one

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from cancer, and one from bronchitis. There were three deaths from epidemic influenza, two from enteritis, five from pneumonia, and two from heart disease.

Water-supply.—The town of Tarporley is well supplied with water from the Liverpool Waterworks. It is a soft water, and great care is taken not to use lead pipes for its distribution in any part of the house service. There are upwards of 300 houses and premises in connection with the mains. In parts of the district are ordinary wells, and other parts are supplied by pipes with water from springs, which are of excellent quality, and afford a good supply to houses within reach of them.

The water-supply required for part of the township of Rushton, comprising five farms and five cottages, has been provided by a main connected with the Liverpool Waterworks.

Isolation Hospital Accommodation.—Satisfactory provision has been made, through the Joint Hospital Board, for the reception of infectious cases, other than small-pox, into the Chester Isolation Hospital.

Inspection.—The Medical Officer of Health visited the district from time to time, and made a general inspection of the district in June and October, reporting in detail on various sanitary matters of an ordinary character.

Sewerage and Sewage Disposal.—The improvement in the sewerage of the district previously reported is a great advantage. During 1909 new sewers were completed in Victoria Street and Forest Road, the sewer in Forest Road being extended to take up sewage from Portal. In this way the quantity of sewage to be dealt with on the sewage farm has been increased considerably. However, the sewage farm continues to work well. The year 1909 was not a good one, being too wet and cold, but notwithstanding these drawbacks, the sewage farm showed a small profit. Roots seem to be the most profitable and satisfactory crops. They require a large amount of moisture, grow quickly and find a ready market.

Refuse Removal.—The excreta is for the most part received into ashpit-privies, which are ordinarily emptied by farmers without difficulty, but in the town of Tarporley there have always been exceptions to this rule owing to its more Urban character.

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Report of Surveyor and Inspector.—Mr. Samuel Greenway, the Surveyor and Inspector, gives attention to all complaints made, visits houses complained of, sees to the cleansing of dirty premises and the abatement of nuisances. There were 49 complaints received during 1909, and 135 houses or premises were inspected, 72 being reinspected, 30 nuisance removal notices were issued, and complied with. The drains at 20 houses were put in good order and 13 privies were converted into water-closets.

Dairies, &c.—The dairies and cowsheds belonging to 7 registered dairymen have been inspected, and are in order.

Slaughter-houses.—There are two in the district, and these were regularly inspected in 1909.

Common Lodging-house.—The only lodging-house in the district has been inspected from time to time.

Factory and Workshops Act, 1901.—There is no factory in the district and only 10 workshops. The latter were inspected from time to time, 40 inspections having been made. No defects requiring notices were observed.

Bakehouses.—Five bakehouses which are not included among the workshops were duly inspected and found in order.

WALLASEY**Urban District.**

Medical Officer of Health—DR. T. W. N. BARLOW.

Population at Census, 1901—53,579.

Population estimated to middle of 1909—73,000.

Area in acres—3,349.

Birth-rate per 1,000 living—25.1.

Death-rate per 1,000 living—12.0.

Death-rate from seven principal Zymotic Diseases—0.68.

Deaths under one year per 1,000 births—80.

PHYSICAL FEATURES AND GENERAL CHARACTER OF THE DISTRICT.

The district of Wallasey is a Peninsula, bounded by the River Mersey on the east, the Irish Sea on the north, Birkenhead and Wallasey Docks on the south and south-west, with a

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mile of flat land on the west between head of docks and sea. The ground rises from Seacombe in a back-bone along the middle of the district, reaching a height of 200 feet above the sea at New Brighton, affording splendid facilities for drainage east and west of this natural ridge. New red sandstone underlies all this district, at a variable depth, with pockets of alluvium, drift clay, gravel and marl.

It is mainly a residential place, a large number of the inhabitants being engaged in business in Liverpool. Some large docks, forming part of the Port of Liverpool, are situated in the district. There are also in the district extensive Lairages, where imported sheep and cattle are killed. There is no occupation which would have any particular influence on the public health.

Population.—The population shown by the last three census returns has been as follows :—

| | | Census 1881. | Census 1891. | Census 1901. |
|----------------------|--------|-----------------|-----------------|-----------------|
| Poulton-cum-Seacombe | ... | 7,640 | 14,900 | 20,749 |
| Liscard | | 11,612 | 16,356 | 28,661 |
| Wallasey | . . . | 1,940 | 1,971 | 4,169 |
| Entire District | ... | 21,192 | 33,227 | 53,579 |

Dr. Barlow remarks :—

“The Registrar-General in his estimate of the population presumes that the population is increasing at the same rate as it did between 1891 and 1901. He, of course, cannot possibly take into account local conditions. I have continued to employ the method which was found to give so strikingly an accurate forecast at the time of the last census, namely, of multiplying the number of inhabited houses as supplied from the rate books by the number of inhabitants per house as shown in the last census. The population per house varies slightly from census to census. At the 1891 census it was 5.2, and at the 1901 census, 4.97. I have thought it advisable to reduce this last figure still further, namely, to 4.75, so as to minimise the chances of over-estimating the population. There are several reasons for thinking that the population of this district is under rather than over-estimated. For instance, at the time of the last census the population was just over seven times the number of children on the rolls of the Public Elementary Schools. If we take the number at present on the rolls of the

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Elementary Schools and multiply it by seven we get a figure in excess of the population as estimated and used for compiling the vital statistics of 1909."

The following table shows the number of inhabited houses for the past four years :—

| | Poulton-cum-Seacombe. | Liscard. | Wallasey. | Totals. | Increase on Previous Year. |
|------|-----------------------|----------|-----------|---------|----------------------------|
| 1906 | 5,002 | 7,501 | 1,313 | 13,816 | 1,907 |
| 1907 | 5,223 | 7,911 | 1,492 | 14,626 | 810 |
| 1908 | 5,562 | 7,976 | 1,686 | 15,224 | 598 |
| 1909 | 5,840 | 7,991 | 1,852 | 15,683 | 459 |

The number of inhabited houses multiplied by 4.75 would give a population at the end of 1909 of 74,494. The population at the end of 1908 was estimated at 72,314, an increase, therefore, of 2,180 in the year. Subtracting half that estimated annual increase from the population at the end of the year gives as population for the middle of the year, 73,404, or roughly, 73,000, and it is on this figure that all the rates are calculated.

New Houses.—The following table shows the number of new houses certified for habitation during the past six years :—

| | | | | |
|------|-----|-----|-----|-----|
| 1904 | ... | ... | ... | 259 |
| 1905 | ... | ... | ... | 432 |
| 1906 | ... | ... | ... | 614 |
| 1907 | ... | ... | ... | 706 |
| 1908 | ... | ... | ... | 604 |
| 1909 | ... | ... | ... | 630 |

Births.—The births during the year numbered 1,838 (936 males and 902 females), giving a birth-rate of 25.1 per 1,000.

There were 71 still-births reported during the year, 54 of which were certified by doctors and 17 by midwives.

The illegitimate births numbered 53, or 2.8 per cent. of the total number of births. It ought to be pointed out that this district seems to be a particularly popular one for young unmarried women who are about to become mothers, to come to be confined. Not only do these births make the percentage of illegitimate births high, but as is well known, the death-rate among these

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illegitimate children is tremendous, and as many of them die in the district, the infantile mortality rate is swelled also. Some of these children are, after a time, taken to the homes of the mothers ; others are sent out to be nursed. By the Children Act, 1908, where a person undertakes for reward the nursing and maintenance of one or more infants under the age of seven, apart from their parents, or having no parents, he shall within forty-eight hours give notice in writing to the Local Authority. The Local Authority in this instance means the Guardians. The Birkenhead Guardians have lately appointed a lady as Inspector under this Act, whose duty it is to supervise these nurse children within their area. The evidence submitted before the Royal Commission on the Poor Laws brought to light the fact that there was a large amount of overlapping in the duties of Boards of Guardians and progressive Health Authorities, and various methods for preventing this overlapping of duties have been advanced in both the Majority and Minority Reports of that Commission. Having in view the fact that in almost every place with over 50,000 inhabitants, and in a large number of places having less than that population, there are on the sanitary staff health visitors, one of whose principal duties it is to visit all births which come to the knowledge of the Local Authority, either by means of the Registrar's returns or, more quickly and directly, through the Notification of Births Act, that these health visitors are the first to come in contact with these children, and would probably, in the ordinary course of their duties, supervise these children for at least the first twelve months of their lives, it appears to be a mistake that the Local Authority under the Act should be the Guardians, and not the local Sanitary Authority. The task of supervising these nurse children would have entailed very little extra work upon health visitors. It is work indeed which many of them were already performing (without any legal authority) before the passing of the Children Act, and work which can be better performed by them than by anyone else, for the simple reason that their work lies wholly in the district in which the children are, whereas, to take this community for example, the Inspector appointed lives in Birkenhead, and has to supervise not only the nurse children of this district but also of Birkenhead, and it would, moreover, have obviated the necessity of appointing a lady specially to do the work, thereby lessening the cost to the ratepayers. It would appear also that some knowledge of sanitation on the part of the Inspector is necessary, since by Section 3b, a nurse child must not be kept in premises which are insanitary. The opinion of ladies without any special sanitary knowledge as to what ought to be considered sanitary or insanitary premises is not worth much.

Wallasey Urban District.

Deaths.—The total number of deaths of residents in the district, including those dying in the workhouse (42) and in Liverpool hospitals (12), but excluding those of visitors (21), was 885, equal to a death-rate of 12.0, which is the lowest death-rate for the Wallasey district as far as records go. It is 0.7 lower than the death-rate of 1908, which then constituted a record.

Owing to the immigration of young adults from rural districts town populations almost always contain a smaller proportion of persons at the extremes of life than is found in the country at large. A district containing a larger than average proportion of infants and aged people will almost necessarily have a higher rate than it would have if the average distribution prevailed. The Registrar-General has given factors for all the English large towns based upon the age and sex distribution as ascertained by the last census, the effect of which is to neutralise this disparity and to raise or lower the gross death-rate to what it would be if the local age and sex distribution were the same as for the country generally. The death-rate for Wallasey, corrected for age and sex distribution in accordance with this method, is 13.08.

In order to illustrate graphically what this gradual lowering of the death-rate means in lives saved, it may be mentioned that the average death-rate for the decennium 1891-1900 was 16.1. If the death-rate of that decennium had prevailed last year 290 more deaths would have occurred in the district. This, no doubt, compensates to some extent for the lowering of the birth-rate, especially when one takes into consideration the decline in infant mortality. The infantile mortality for 1909 is only 80 per 1,000 births. The infantile mortality for the decennium above mentioned was 143. Continuing the comparison it will be seen that the decreased rate of infantile mortality means a saving of 115 infant lives in the year.

Inquests, &c.—Forty-six inquests were held, 34 of these being on residents and 12 on non-residents.

Fourteen of the deaths were those of illegitimate children, all under one year of age. Last year inquiries were made into all deaths of children under one, and several deaths were found to have been registered in the father's name, which were really illegitimate children.

Infant Mortality.—During the year 1909 the deaths of 148 children were recorded who had not at the time of their

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death reached the age of one year. This gives an infantile mortality rate of 80 per 1,000 births.

Compared with the infantile mortality rate of the decennium 1891-1900, this means a saving of 115 infants per annum. This is a very remarkable drop in the rate. Only once in recent years has the infant mortality rate fallen below 100, namely, in 1905, when the rate was 98.

Dr. Barlow discusses this fact as follows:—

“To what is this fall due, and is this low rate likely to continue? Let us examine the deaths due to infantile mortality for the past two years:—

| | 1908. | 1909. |
|---|---------------|-----------|
| 1.—Common Infectious Diseases caused | 21 deaths ... | 4 deaths. |
| 2.—Diarrhoeal Diseases caused | 23 „ ... | 14 „ |
| 3.—Wasting Diseases (including Premature Birth, Atrophy and Marasmus) caused | 75 „ ... | 56 „ |
| 4.—Tuberculous Diseases caused | 11 „ ... | 13 „ |
| 5.—And other causes, including Respiratory Diseases, Convulsions and Overlying caused | 46 „ ... | 61 „ |

“Under the heading of wasting diseases in 1908, 39 deaths were of children prematurely born. Deaths due to atrophy and marasmus numbered 25. In 1909 the numbers were 27 and 20 respectively.

“It will be seen that there is a lessened mortality in the first three groups and an increased mortality in the last two. The decrease in Group 1 is mainly accounted for by the fact that whereas in 1908 there were 12 deaths from whooping-cough, and 19 from measles, in 1909 not a single death was attributed to whooping-cough, and only three from measles. While it is a pleasure to record the fact that fewer deaths from these two diseases took place last year than in the preceding year, it is only fair to state that these are the two infectious diseases which have shown themselves to be less amenable to administrative control than any of the other infectious diseases; and although a large number of cases of whooping-cough and measles are visited, and leaflets giving information concerning these diseases left at each house, which procedure may possibly have had some influence on the mortality, still I think it is a mere coincidence that the mortality from these diseases has been so low during the year, and one cannot hope with any degree of confidence for any continuation of this low mortality.

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“The decreased mortality in Group 2 (diarrhœal diseases) is satisfactory. The deaths in this group, generally speaking, may be said to be due to errors of feeding, and it is probable that the efforts of the lady inspector in encouraging breast-feeding and giving advice as to feeding where breast-feeding cannot be undertaken, have had some influence in causing this decline, although it must be stated that the weather conditions prevailing during the summer were not such as would be conducive to a high mortality from summer diarrhœa.

“Group 3 (wasting diseases, including premature births, etc.), while to some extent preventable, are not causes of death which are likely to be influenced by present administrative measures. No doubt many premature births could be prevented in that they are due to ante-natal conditions in the mothers which admit of improvement, but not, I think, by any administrative measures at present coming within the purview of a Sanitary Authority. Still, the deaths ascribed to atrophy, debility and marasmus may be due in part to ignorance and other conditions which the efforts of health visitors can greatly improve, and here I think again the decreased mortality may in part be due to the policy adopted in the district.

“It should be pointed out, however, that, while the weather conditions were adverse to summer diarrhœa, they were certainly favourable to chest troubles, and whereas pneumonia and bronchitis were responsible for 21 deaths in 1908 they caused 27 deaths in 1909.”

Inquiries instituted last year as to the causes and circumstances attending the deaths of children under one year have been continued in 1909, and the results again bring into prominence how important it is that young children shall be breast-fed where possible. 1,230 births were visited. At the time of the first visit 75 per cent. were fed entirely on the breast; 14 per cent. were bottle-fed; 11 per cent. on breast and bottle. Of the deaths of children under one year (148 in number), 23 were breast-fed, 57 were bottle-fed, 7 were fed on breast and bottle, 11 were not fed at all, and particulars were not ascertained with regard to 14 of the deaths. It will thus be seen that although five and a half times more children are breast-fed than are bottle-fed, there are actually two and a half times more deaths of bottle-fed children. These figures are most striking. If it is necessary to offer any inducement to mothers anxious for the welfare of their children to feed them from the breast where possible, these figures ought to

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supply that inducement. Not only is it in the first year of life that the advantages of breast-feeding are shown, but throughout life. There can be no doubt whatever, that breast-fed children have more stamina, and throw off diseases much more easily than artificially-fed children. Of the 14 illegitimate deaths all were artificially fed.

In view of the low infantile mortality rate for this year, and having regard to the general character of the population of the district, Dr. Barlow does not feel justified in recommending for the present the adoption of the Notification of Births Act. He thinks, however, the following fact on the opposite side should be noted, namely, that, of the births visited on receipt of the Registrar's Return, 58 were found to have died *before* the Lady Inspector's visit, and of these, 12 from causes which possibly a little advice and supervision might have prevented. There was also one death ascribed to diarrhoea, the result of improper feeding, whose birth was registered *only one week* before the death. This advice and supervision can thus, in many cases, only be given on receipt of an early notification of the birth. On the whole he thinks it will be advisable to leave the adoption of the Act open for another year.

Infectious Diseases.—The number of infectious diseases notified during 1909 shows an increase of 434 compared with those notified in the previous year.

The following table shows the nature of the notifications of infectious diseases received :—

| Disease. | | | | 1909. |
|---------------------------|-----|-----|-----|-------|
| Small-pox | ... | ... | ... | — |
| Diphtheria | ... | ... | ... | 57 |
| Membranous croup | ... | ... | ... | — |
| Erysipelas | ... | ... | ... | 32 |
| Scarlatina | ... | ... | ... | 716 |
| Typhus | ... | ... | ... | — |
| Typhoid | ... | ... | ... | 18 |
| Puerperal Fever | ... | ... | ... | 2 |
| Chicken-pox | ... | ... | ... | — |
| Cerebro-Spinal Meningitis | ... | ... | ... | — |
| Total | ... | ... | ... | 825 |

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Small-pox.—No cases of small-pox occurred during the year. Twenty-seven contacts have been under supervision, all of whom had been in contact on board ships. Most of these had been re-vaccinated before leaving the vessels, and none developed the disease.

Cholera.—During the year information was received from the Medical Officer, of several Port Sanitary Authorities that 15 people had arrived in this district from cholera-infected ports. These people were all visited, but none developed the disease.

Scarlet Fever.—The number of cases of scarlet fever has been greatly in excess of the average. In the autumn of 1908 a great increase in the incidence of the disease was apparent. This continued throughout the year. It was not until December, when the incidence of the disease is usually at its highest, that the number of cases showed any marked decline.

The disease in the early part of the epidemic was of a distinctly mild type. In 1908, when only 248 cases were notified, the death-rate per cent. of cases was four, and of the 174 cases admitted to hospital five per cent. died. In 1909 the death-rate per cent. of cases fell to 2.7, and of the 507 cases admitted to hospital only 2.7 died.

Dr. Barlow proceeds :—

“In a special Report on the incidence of this disease which I presented during the year to the Health Committee, I pointed out (1) that no part of the district was specially infected ; (2) that so far as could be ascertained there was no special cause at work, and that certainly a factor in the increased incidence of the disease was the number of unrecognised cases. I judged this from certain facts which came to my notice. (a) Twelve cases admitted to the hospital, as scarlet fever, presented no signs of the disease on admission. These cases were isolated, and after a short time were sent home, still presenting no signs of the disease ; (b) 12 additional cases developed recurrent attacks in hospital, the inference I draw from that is that either the cases were of so mild a character as to afford no immunity when exposed to concentrated infection in the wards, or that the disease for which they were admitted in the first place was not scarlet fever, and that they subsequently developed the disease in hospital. There can be no doubt that these very mild cases are exceedingly difficult to diagnose, and no doubt

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many cases of this mild nature were never visited by a medical man, consequently they were never isolated, and were thus the cause of infection in others. (c) I was constantly invited by practitioners to consult with them as to the nature of mild illnesses suspected to be scarlet fever. The Lady Sanitary Inspector discovered several cases peeling, and through an anonymous letter, I myself found five patients in one house, all peeling freely, and all had mixed with other children.

“A specially sharp look-out was kept on anything which would point to dissemination of the disease by means of milk, but in only one instance did there appear any reasonable ground for suspecting this as a source of infection. In the month of May a series of cases occurred in the round of a particular milkman. This milkman received his milk from a certain farm in Cheshire. I first visited the premises from which the milk was retailed, and on finding nothing which could cause infection there, I wrote to the Medical Officer of Health of the district from which the milk came, and learned from him that there had been a case of scarlet fever at the farm, but that the patient had been removed to hospital and all precautions taken against the spread of the disease. It is possible that for one or two days before the case was removed to hospital the milk was contaminated at the farm, and may have been the cause of a few of the cases here. At all events the exaggerated number of cases in the round of this particular milkman which had been noted suddenly ceased, and the cessation corresponded in time with the removal of the child to hospital.

“On four occasions, when the incidence of the disease appeared to be specially great amongst scholars attending various Public Elementary Schools, I visited the schools, examined the children in the various infected classes, and excluded several suspicious cases from attendance. I may specially mention one instance, namely, Vaughan Road Schools. The incidence amongst the scholars at that school was particularly well marked, and on two separate occasions I examined all the children in the Infants' Department, without any very satisfactory result. The incidence, however, still continuing, I obtained from the head teacher a list of all the absentees. I visited these, and found two cases peeling profusely. One of these I found had never been isolated and had constantly played for a fortnight with scholars attending the school, and I definitely traced nine cases to this particular lad. In fact, the special incidence from the scholars of that school ceased as soon as this boy was isolated.

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"The disease was also introduced into the district several times by visitors from Liverpool.

"A little care on the part of parents in isolating cases at the onset of the illness would have prevented many cases. It is quite a usual thing amongst the poorer people when a child is taken ill, for it to be removed to the kitchen, and if the disease happens to be scarlet fever, that of course means that everyone in the house is exposed to infection. I have met several cases indeed, in which *after* the disease has been diagnosed as scarlet fever the parents have brought the child into the kitchen preparatory to its removal to hospital, and the other children in the house have been playing with it.

"The virus of scarlet fever can probably be harboured for a considerable time (just as in diphtheria), and the infection will only manifest itself when the resisting power of the individual has been lowered from any cause."

"There is no evidence that the prevalence of scarlet fever has any relation whatever to the sanitary condition of a district. It is a contact-spread disease kept alive by missed or unrecognised cases. The part which infected clothing and infected premises play in the spread of the disease has been, in my experience, very much exaggerated. My experience leads me to believe that infected clothing is but rarely the means of conveying infection. By infected clothing I would include only the clothing worn by one actually suffering. The amount of infection capable of being carried on clothes by reason of entering infected rooms is, I think, negligible. I judge of this from the experience of medical men. They are constantly in and out of infected rooms, and if the disease were at all commonly spread in the manner just indicated there must be evidence of it nearly every day. I have made special enquiries in over 500 consecutive cases of scarlet fever with a view to finding out whether it was possible that the doctor had conveyed infection to the house, and in only four instances had the doctor been in attendance at the house *before* the outbreak of the disease, and in each of these four it was *extremely unlikely*, to put it mildly, that the doctor had been the means of conveying the infection, much more probable sources being discovered in each case.

"During the year, although the hospital was working at its utmost capacity, it was on rare occasions that we had to refuse admittance to suitable cases, and then only for a day or so.

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"There is a distinct tendency in these days for parents to shelve their responsibilities whenever possible. This is seen in regard to the isolation of scarlet fever patients in hospital. This isolation is not needed for the children of persons in good circumstances. The sufferers do as well, or better, at home, especially cases of a mild type. Indeed, I will go farther and say that in my opinion it is a mistake to send mild uncomplicated cases of scarlet fever to hospital where reasonable isolation can be provided at home. Mild cases in hospital are prone to get exacerbation of throat symptoms and to develop Rhinitis, some develop a second attack of the disease of greater intensity even than the first."

Diphtheria.—In 1909 the number of cases of diphtheria notified was 57 (of which number 9 died), compared with 72 notifications in 1908, and 92 in 1907. The percentage of deaths to cases was 15.7.

Although the number of cases notified was 15 less than in 1908, the number is still 5 above the average for the last 10 years. 31 cases were admitted to hospital, of which four died.

There was no special incidence of the disease in any particular part or in any particular school. The cases were sporadic and scattered. Of the 31 cases admitted to hospital as diphtheria, six were found on examination not to be diphtheria. Of these one died.

It cannot be too strongly urged, or too often repeated, that the mortality from diphtheria depends very largely on the promptness with which the disease is cut short by the use of Antitoxin. From the Reports of the Metropolitan Asylums Board, it would appear that in cases treated with Anti-toxin on the first day of illness the deaths are practically nil; a low percentage if treated on the second day, with an increasing percentage of deaths for each further day which elapses before Anti-toxin is administered.

Dr. Barlow's experience is that, outside hospitals, the tendency is to give too small a dose.

There can be no doubt that the infection of diphtheria is nothing like so searching or so protracted as that of scarlet fever, and experts generally are of opinion that the disease is almost always spread by personal contact and not by means of inanimate

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objects—of course, utensils actually put into the mouth of a patient, *e.g.*, a cup, spoon, spatula, are excluded in this generalization.

The enquiries did not reveal any connection between drainage defects or sewer emanations and the disease.

Typhoid Fever.—The number of cases of typhoid notified was 18, compared with 34 last year. The drop in the number of cases is quite remarkable, as 18 is by far the smallest number of cases of typhoid in any single year on record. This small number even gives a wrong view of the situation, since, of the 13 cases that went to hospital notified as typhoid, five were subsequently found not to be so suffering, and of those nursed at home, two at least contracted the disease outside the district, one of whom was a visitor.

There was a history of shellfish (oysters) having been eaten in one case, but whether the oysters were infected or came from a polluted source, it was not possible to ascertain.

No deaths occurred amongst those treated in hospital, and two only amongst those treated at home.

Measles.—During the year 13 deaths occurred from measles, equal to a rate per 1,000 living of 0.17.

Just before the summer holidays measles was very prevalent in Poulton. In the autumn the disease also became very prevalent in Seacombe and Liscard, and between October and December it was found necessary to close the Infants' Department of the following schools owing to the incidence of the disease among the scholars.

Riverside Council Schools.

Manor Road Council Schools.

St. Paul's Schools.

Rock Schools, Magazine Lane.

Somerville Council Schools.

Measles is looked upon by the public as a disease of no importance, and often no attempt is made to isolate a patient suffering therefrom, and, moreover, no care is taken of the patient. A disease cannot be looked upon as trifling which annually causes

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more deaths than scarlet fever, diphtheria and typhoid put together. Still, it will be agreed that, with proper care of those suffering, many deaths would be saved. While, with our present knowledge, very little can be done to limit the spread of this disease, the majority of the deaths are preventable. Inquiries into deaths from measles tend to show that home conditions are the determining factor in deciding the issue of the attack in the majority of instances. It is not common to find a death from measles in houses of the better class.

Practically all the deaths from measles occur below the age of five years. From a public health point of view it is an exceedingly unsatisfactory disease to deal with. Some Local Authorities advise notification, disinfection, and even part isolation in hospital, but on the other hand several towns that have had long experience in all these matters have given them up after a lengthened trial as having no effect on the incidence of the disease.

As many of the cases as possible are visited by the Lady Inspector, who advises according to circumstances, and leaves a leaflet giving instructions as to isolation.

Whooping-cough.—Not a single death from whooping-cough occurred during the year. This is an unique experience.

Only 13 cases were notified by the School Authorities during the year.

Diarrhœa.—During the summer of 1909 there was practically no diarrhœa until the end of August, and after that date, in comparison with former years, the number of cases was exceedingly small. Six deaths in all were returned as being due to diarrhœa, five of which were under the age of one year. All of these five were artificially fed.

In two houses where there were twin births one of the infants died in each case. In another case the mother asserted that the child had not had diarrhœa, but that it had died from pneumonia.

There can be no doubt that the meteorological conditions prevailing last summer have been the principal factor in limiting the mortality from summer diarrhœa, but it also should be borne in mind that, while last summer was by no means the only summer of recent years which has been cold and wet, there still

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remains the gratifying fact that, in spite of the rapid increase in population, the number of death from diarrhœa has never been so low. This would seem to show that the efforts made to encourage breast feeding, and to educate the people as to proper methods of feeding when breast feeding is impossible, and further, that the education of the public in the value of fresh air and in other elementary facts of hygiene, are having their due effect. The Lady Sanitary Inspector visits as many as possible of the births notified by the Registrar, encourages breast feeding, and gives advice where necessary on the feeding and management of children.

One constantly hears summer diarrhœa and insanitation linked together as being interdependent wholly or in part. Dr. Barlow does not think the number of deaths from summer diarrhœa is any indication whatever as to the sanitary condition of a town, but rather is an indication as to the care and attention which mothers bestow upon their children, particularly with regard to the feeding of those children unable to be fed on the breast, either of necessity, or unwillingness on the part of the mother.

Phthisis.—The deaths from phthisis number 63, equal to a death-rate of 0.8 per 1,000 of the population, a rate much below that of the whole country. It should be noted, however, that low as this rate is, and if the phthisis rate is taken as affording any indication of the healthiness of this particular district, it is a misleading figure because, as a matter of fact, the good reputation of this district attracts people suffering from phthisis to come and live here in the hope of improving or curing their condition. Of the 63 deaths above referred to, no less than 21, or exactly one third of the deaths occurred among people who had been resident in the place 12 months and under, and who had come to the district specially for the sake of their health. Three other deaths occurred amongst people similarly placed, but who had been in the district two years and under. Excluding these 24, our rate per 1,000 of population would be 0.5. These people came to the district from various parts of Lancashire, Yorkshire, and Cheshire, but in that they did not die in public institutions, their deaths have to be included amongst those belonging to this district. Of the total number of deaths, four died in the Workhouse Hospital.

Beyond the notification of cases coming under the cognizance of the Poor Law Authority, no system of notification obtains in this district.

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From the Union Infirmary there were received 21 notifications (12 males and 9 females), and from the Local Poor Law Medical Officers, 8 (4 males and 4 females). Of these, one has been notified by the Medical Officer of the Union, twice, and another has been notified by both the Parish Doctor and the Medical Officer of the Infirmary. This leaves 27 cases notified (15 males and 12 females). In addition there have been 8 notifications of changes of address.

In six instances it was found that their last address as given by the patients on admission to the Workhouse Hospital was incorrect. These occurred mostly in the beginning of the year, and probably are accounted for by the fact that the people referred to had been in the hospital for some considerable time.

The cases notified included two brothers. Four deaths subsequently occurred amongst those notified from the Workhouse Hospital.

Formerly, disinfection in this district was carried out only after death on the request of the medical attendant. Latterly, it has been the practice to disinfect after every death which has been registered.

Dr. Barlow further remarks :--

“ Perhaps I might refer here to a difficulty in regard to the disinfection of some houses where phthisis patients have lived. It is a well known fact that the poor frequently change their houses. When the poor person happens to be afflicted with phthisis and constantly changes his address, as has been found to be the case in several instances here, he rarely or never notifies the Sanitary Authority of his change of address. The consequence is that on a re-visit being made to his house, the patient is found to have gone, leaving no address, and possibly there is a new tenant in the house. The latter will, naturally, object to have the house disinfected without any reason being assigned for the disinfection, especially if some time has elapsed since his entry into the house ; and if the reason be given, it is quite possible that the tenant will become frightened and leave, thereby injuring the landlord.

“ I may mention that in this district two Registers are kept with regard to phthisis. One is a House Register, in which it is noted whether or not disinfection and cleansing are carried

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out at a house after the occurrence of a case there, and the other is a Case Register giving certain particulars regarding the case, patient's changes of address, and so forth. The fact may not be of great value, owing to the small number of enquiries yet made, but it is perhaps worth noting, that up to date I have not come across an instance in which two cases belonging to different families have occurred in one house, in other words, in which a possibly infected house may have given rise to the disease.

RESULT OF ENQUIRIES—FAMILY HISTORY.

“In 57 instances no previous history of phthisis among actual members of the family could be ascertained

| | | | | |
|------|---|---|---|---|
| „ 13 | „ | one member of the family had died of phthisis | | |
| „ 8 | „ | two members | „ | „ |
| „ 3 | „ | three members | „ | „ |
| „ 2 | „ | five members | „ | „ |
| „ 1 | „ | 11 members | „ | „ |
| „ 1 | „ | 13 members | „ | „ |
| „ 3 | „ | a grandparent was said to have died of phthisis.” | | |

These figures show that a history of a previous death in a family from phthisis occurred in 35.2 per cent. of the cases.

The foregoing statement has reference to 88 persons, and includes notifications as well as deaths of phthisis patients.

Enquiries also showed that in 12 instances other members of the family were at present suffering, or supposed to be suffering, from phthisis.

In the following instances a very probable source of infection was discovered, namely :—

One patient traced her illness to nursing and sleeping with a friend who died from phthisis, and in another instance a patient who died was found to have nursed for several months a brother-in-law who had died from phthisis two years previously. In the third instance the patient had been in service with a consumptive lady two years prior to onset.

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COMMENCEMENT OF ILLNESS.

Enquiries have also been made with a view to ascertaining the probable date of onset of the disease.

In 13 instances the illness *was said* to have commenced less than a year prior to notification or death

| | | | | | |
|------|---|-------------------------------|---|---|---|
| „ 16 | „ | between 12 and 18 months | „ | „ | „ |
| „ 3 | „ | between 18 months and 2 years | „ | „ | „ |
| „ 13 | „ | between 2 and 3 years | „ | „ | „ |
| „ 13 | „ | between 3 and 4 years | „ | „ | „ |
| „ 4 | „ | between 4 and 5 years | „ | „ | „ |
| „ 6 | „ | between 5 and 6 years | „ | „ | „ |
| „ 3 | „ | between 6 and 7 years | „ | „ | „ |
| „ 3 | „ | between 7 and 8 years | „ | „ | „ |
| „ 3 | „ | between 8 and 9 years | „ | „ | „ |
| „ 1 | „ | between 10 and 11 years | „ | „ | „ |

In the remaining instances the date of commencement of illness could not be ascertained.

ALCOHOL.

The enquiries with respect to the use or abuse of alcohol in each case gave the following results:—

| | | | |
|--------------------------------|-----|-----|----|
| Intemperate, or heavy drinkers | ... | ... | 31 |
| Moderate drinkers | ... | ... | 32 |
| Abstainers | ... | ... | 18 |
| Not ascertainable | ... | ... | 4 |

HABITS.

Enquiries were made in each case as to the tubercular habits of the patient, viz., whether the sputum was burnt, and whether due precautions were being taken to prevent the infection of others. In 13 instances the patients were said to be of dirty habits, in five fairly clean, in two careless, whilst in the remaining 70 cases, so far as could be ascertained, the patients took every precaution.

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The sanitary conditions prevailing were as follows. The points particularly noted were, whether the houses or rooms were dark, damp or dirty.

In 11 instances the houses were damp or dark, or both, and in two instances were dirty only. In one instance the house was built on a damp site.

“The Order of the Local Government Board enjoining the notification of all cases coming under the cognizance of the Poor Law to Sanitary Authorities is, in my opinion, a very excellent measure, and one which in many districts will, for practical administrative purposes, provide all the information which is necessary. I have always thought that the general practitioner was the person in whose power it lay principally to give the necessary instructions to people, whereby they are enabled to prevent themselves from becoming a source of danger to their neighbours. No doubt this is always done to the better classes—in short, the people who would resent the interference of the Sanitary Authority. The poorer classes are those to whom suitable advice is, perhaps, not always given, and this is the class amongst which the efforts of the Sanitary Authority will largely lie. This Order, to my mind, removes the question as to the desirability of adopting the voluntary notification of phthisis. My previous experience of that procedure has not impressed me favourably. In the County Borough where I had six years’ experience of its working, in the first half year 22 cases were notified; in the following twelve months 22 cases, and a decreasing number each year until in the last year only eight cases were notified. Many of these cases were notified after death, a quite useless procedure so far as I was concerned, because, the information would have been conveyed to me within a few days in the ordinary course of events through the death returns; and, as a matter of fact, was so sometimes conveyed before I received the notification. Moreover, the cases which were notified were just those which are now notified through the Poor Law, not the better class patients—these were sometimes notified *after death*, simply for disinfection to be carried out. I think the fear of the general practitioner that the notification of phthisis puts a patient under a ban is a very real one. I did not think so at one time, but several cases which have come under my personal observation have convinced me that my first impression was wrong. The compulsory notification of phthisis may be necessary in some manufacturing

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towns, but now that the cases coming to the knowledge of the Poor Law officials are notified, I do not think its general adoption is advisable or necessary."

ISOLATION HOSPITAL.

The Hospital has worked at high pressure throughout the year, and the Matron and Staff deserves the highest commendation for the way in which they have met the demands upon them.

Summary of Cases Treated in Hospital in 1909.

| Disease. | Remaining at end of 1908. | Admitted during 1909. | Discharged during 1909. | Died during 1909. | Remaining at end of 1909. | Average Residence in days. |
|---|---------------------------------|-----------------------------|-------------------------------|----------------------|---------------------------------|----------------------------------|
| SCARLET FEVER | 38 | 495 | 479 | 14 | 40 | 47.6 |
| Cases admitted to Hospital as, but subsequently found not to be, Scarlet Fever | ... | 12 | 12 | ... | ... | ... |
| See note below. | | | | | | |
| DIPHTHERIA | 3 | 25 | 21 | 4 | 3 | 24.4 |
| Cases admitted to Hospital as, but subsequently found not to be, Diphtheria | ... | 6 | 5 | 1 | ... | ... |
| ENTERIC FEVER | 2 | 7 | 8 | ... | 1 | 42.9 |
| Cases admitted to Hospital as, but subsequently found not to be, Enteric Fever | ... | 6 | 5 | ... | 1 | ... |
| ERYSIPELAS | ... | ... | ... | ... | ... | ... |
| OTHER ADMISSIONS | ... | 7 | 6 | 1 | ... | 9.7 |
| TOTAL | 43 | 558 | 536 | 20 | 43 | ... |

NOTE.—These 12 cases were isolated and no harm resulted. In addition there were 12 cases which developed definite secondary attacks in hospital. This presumes that the disease for which they were admitted was a primary attack and not some other disease, which in some instances was, to say the least, doubtful.

*Wallasey Urban District.***Vaccination Return for Wallasey from the 1st July, 1908, to the 30th June, 1909.**

(Supplied by the Vaccination Officer).

| | | | |
|--|-----|-----|-------|
| Succcessfully Vaccinated | .. | ... | 1,433 |
| Died before Vaccination | ... | ... | 118 |
| Insuseeptible | ... | ... | 17 |
| Conscientious Objections | ... | ... | 70 |
| Postponed by Medical Certificate | | ... | 42 |
| Removed, Traeced, and Vaeecination Officers notified | ... | ... | 30 |
| Not found, or removed to places unknown | | | 57 |
| Not Vaeecinated or otherwise accounted for | | | 45 |
| <hr/> | | | |
| Total Number of Births Registered | ... | ... | 1,812 |

The number of certificates and statutory deelarations of conscientious objection received during 1909 are 66, eompared with 77 during 1908.

WATER-SUPPLY.

The water-supply of the distriet is partly from wells in new sandstone, 320 to 900 feet deep, reinfoered by a supply of 500,000 gallons per day from Lake Vyrnwy, upland surface water. No filtration is necessary. The service is a eonstant one, and the supply ample and pure, but somewhat hard.

SEWERAGE AND DRAINAGE.

The water-carriage system obtains throughout, and the erude sewage is discharged into the Mersey below low water level. Extensive re-construction of sewers has been carried on in the last few years.

The growth of Wallasey has been extremely rapid, with the result that most of the house drains are new, and have been construted under modern bye-laws and striet supervision. All new house drains are subjected to a smoke test before finally being elosed in.

REMOVAL AND DISPOSAL OF HOUSE REFUSE.

There remain at present 1,207 single ashpits and 1,715 double ashpits. These are emptied on an average every six weeks

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by the employés of the Council. Their number is being steadily reduced. 322 ashpits have been abolished during the past year and bins substituted. Bins are now required in all new property. These are emptied once a week, and the total number of bins is now 11,343.

Dr. Barlow has some trenchant remarks to make under this heading :—

“ It was formerly the practice in this district for the night-soil men to be supplied with a so-called disinfectant powder, a handful of which was thrown into the pits or bins after emptying the contents into the earth. This process was called ‘disinfecting the bin!’ At the same time it was the custom when gullies were cleaned, for a handful of the same substance to be cast over and into the gully, most of it, I am afraid into the channel. This also was supposed to have some disinfecting action. After a report from me both practices were discontinued. I have been the recipient of many letters from members of the public asking why the disinfection (save the mark!) of the bins has been discontinued. Others have asked that the bins should be washed instead of disinfected. I have pointed out to several that the condition of the ashpit or ashbin depends on the method of use, and if an ashbin smells it is due to the fact that unsuitable material is put into it. I have also pointed out that an ashbin properly used does not require disinfection or even a deodorant. In the appendix will be found a copy of a handbill which is left at each house in the district with regard to the manner of use of ashpits and ashbins. With regard to the washing of the bins it appears to me that people might with equal reason ask the Sanitary Authority to undertake the washing of children’s faces. It has more than once been prophesied that the stopping of the practice of throwing this disinfectant powder promiscuously about would have very serious effects on the public health. These prophesies as you will have found on reading the preceding pages have altogether been falsified. The public are so fed up with advertisements of disinfectants, as to what they will do (there is nothing they won’t do), that the practice of disinfection is in danger of falling into disrepute. The usefulness of disinfectants is strictly limited, and when they take the place of soap and water and cleanliness, as I fear there is danger of their doing, their use is fraught with grave danger. Disinfectants in the hands of ignorant people are quack remedies. Many of them are themselves useless, while others, which may be good, are rendered useless by their manner of use.”

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Ashpit Abolition.—A special effort has been made during the year to deal with nuisances arising from defective and offensive ashpits. A large number of notices have been issued requiring the abolition of insanitary pits and the substitution therefor of galvanized iron ashbins, in accordance with section 77 of the Wallasey Tramways and Improvements Act, 1906.

322 pits have been dealt with this year, giving an increase of 88 as compared with those abolished last year.

In two instances only the agents objected to carry out the work, and in these cases it was necessary to issue fourteen informations. Before the hearing, however, the respective owners agreed to carry out the necessary works, and the summonses were withdrawn on payment of costs.

Insanitary Property.—A large amount of work has been done during the year to improve the housing conditions prevailing in some parts of the district.

Section 30 of the Housing of the Working Classes Act, 1890, runs as follows :—

“ It shall be the duty of the Medical Officer of Health
“ of every district to represent to the Local Authority of that
“ district any dwelling-house which appears to him to be in a
“ state so dangerous or injurious to health as to be unfit for
“ human habitation.”

Section 32 imposes the duty on the Local Authority, on receipt of the representation of the Medical Officer of Health, if any dwelling-house appears to them to be in such a state to forthwith take proceedings against the owner or occupier for closing the dwelling-house.

In compliance with these provisions, 31 houses were represented as unfit for habitation.

Ten closing orders were obtained during the year.

Of the 31 mentioned above houses, 10 have been demolished.

In addition, there have been four demolitions of houses that were represented in 1908. These were all demolished by the Council.

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The owner of the two houses, 191a and 191b, Wheatland Lane, is under an agreement to demolish by the end of March No. 192, is to be made habitable.

Three houses have been permanently closed.

In addition, five houses represented in 1908, which were under an agreement to close at the end of March last, have been so closed.

Three houses in Hope Place have been converted into workshops.

The owners of 12 other houses are under agreement to close at the end of March, 1910.

The houses 6, 7, and 8, Victoria Grove, have undergone very extensive repair. The tenants were turned out and the houses thoroughly gutted. Increased yard space, separate w.c.'s and washing boilers for each house have now been provided in addition.

A large proportion of this work has been done by agreement. In only three instances, relating to 10 houses, has it been found necessary to appear at the Police Court. Beyond the expense of demolishing five houses, the work has not entailed any cost whatever upon the ratepayers.

In the work in regard to insanitary property, there has always been kept in view the fact that any work of demolition must not be done too rapidly, so that hardships may not be inflicted on tenants by their being unable to find suitable houses in the time at their disposal.

A special report on this question was also made by Dr. Barlow during the year.

Sub-Let Houses.—There are 52 sub-let houses on the Register. These houses have been regularly supervised throughout the year.

Eight hundred and nine visits have been paid by the Inspectors.

It is exceedingly difficult to keep a proper Register of these houses, as the people inhabiting them are continually changing,

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and what would be an accurate Register one day, would not be so seven days afterwards.

For contraventions of the Bye-laws, 28 notices have been served, 26 of which were complied with. It was found necessary to prosecute in two instances, namely, for overcrowding and for not keeping the house clean. The defendants were fined 10s. and 8s. 6d. costs, in the first case, in the latter, 3s. 6d. without costs, and an order made to cleanse within three days.

During the year a prosecution was instituted against a woman for failing to comply with a nuisance notice requiring her to cleanse her house. A fine of 3s. 6d. was inflicted by the magistrates in this instance.

Factories.—For the most part the law relating to factories is administered by the Home Office.

254 visits were, however, made to factories, 209 being in reference to sanitary accommodation, and 45 in reference to emissions of smoke from chimneys.

Workshops.—The number of workshops on the register is 329, and to these and the workplaces 1,426 visits of inspection were paid.

34 notices were sent to H.M. Inspector of Factories in accordance with the various requirements of the Act.

Bakehouses.—At the end of the year there were 108 bakehouses in occupation, of which 16 were underground.

These places have been regularly inspected, and were, on the whole, kept in a cleanly condition, although in several instances it has been necessary to serve notices or to write letters complaining of the conditions prevailing in certain of them. In some instances better provision for the washing of the bakers' hands should be provided.

During the year structural alterations have been made in four bakehouses in accordance with notices served by this Department.

A few of the existing bakehouses have been in use a very long time, and are not up to modern requirements. When the

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tenancies of the present occupiers cease, objection ought to be taken to their continued use.

Seats for Shop Assistants Act.—Under the above Act, the title of which reveals its object, the following work has been done :—

| | | | |
|----------------------|-----|-----|-----|
| No. of shops visited | ... | ... | 240 |
|----------------------|-----|-----|-----|

Notices to provide seats were sent in two instances, and both were complied with. All the others were already provided with seats.

Wallasey Early Closing Order, 1909.—The following work has been carried out under the above Order, which fixes the hours for closing certain trades each day :—

| | | |
|---------------------------------|-----|-------|
| No. of Visits of Inspection ... | ... | 5,549 |
| No. of Contraventions ... | ... | 24 |
| No. of Prosecutions... | .. | 1 |

Dairies, Cowsheds and Milkshops Order.—There are 29 cowsheds on the register.

The number of cows in the registered sheds at the end of December was 92.

The cowsheds have been regularly inspected (213 visits) throughout the year, and the efforts made to secure systematic grooming of the cows, the washing of the udders, and the cleansing of the milker's hands before milking have been continued, and the improvement which was manifested last year in regard to these matters has been maintained. During the year one of the oldest cowsheds has been re-drained, and improvements made in the lighting and ventilation.

During the year sanitary alterations have been made in three milkshops, in accordance with notices served by this Department.

Clause II. of the Dairies, Cowsheds and Milkshops Order of 1885 had in several instances been contravened, since the methods of storage were such as to be incompatible with the proper preservation of the cleanliness of the milkstore or milkshop and of

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the milk vessels and milk therein, and likely to cause contamination thereof.

The following are the particulars :—Number of cases in which milk was stored in unsuitable places, or where the shop was used for the sale of groceries, hardware, soap, tobacco, firewood, vegetables, or other miscellaneous goods, in addition to milk, 60. Number of cases in which the milk vessels were not provided with proper covers, 39.

In 59 instances the occupiers have ceased to sell goods which were considered to be unsuitable or liable to pollute or otherwise contaminate the milk sold from the same shop, and in 38 cases the milk vessels have been provided with proper covers. In 2 instances new and approved storage accommodation has been provided.

In one instance the Medical Officer of Health objected to the premises being continued for the storage and sale of milk, and consequently the sale of milk has been discontinued.

Meat Inspection.—There are 4 registered slaughter-houses and 3 licensed slaughter-houses, in addition to those at the Wallasey and Alfred Lairage.

The following are approximately the number of animals slaughtered :—

| | Total Animals. | |
|-------------------------------|----------------|---------------|
| Private Slaughter-houses | .. | 7,542 |
| *Wallasey and Alfred Lairages | ... | 10,001 |
| Total ... | ... | <u>17,543</u> |

* These figures are supplied by the Mersey Docks and Harbour Board.

Table shewing the amount of tuberculous meat seized and destroyed.

| | | Private Slaughter-houses. | | Lairages. |
|-------|-----|---------------------------|-----|------------|
| Beef | ... | 12 carcasses | ... | 1 carcass. |
| Pork | ... | 8 carcasses | ... | — |
| | | <hr/> | | <hr/> |
| Total | ... | 20 carcasses | ... | 1 carcass |

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Amount seized and destroyed for other causes.

| | Private Slaughter Houses. | | Lairages. | |
|------------|---------------------------|-----------|-----------|-----------|
| | Carcases. | Quarters. | Carcases. | Quarters. |
| BEEF ... | 10 | 3 | — | 2 |
| MUTTON ... | 17 | 4 | 2 | — |
| PORK ... | 14 | 2 | — | — |
| LAMB ... | 14 | — | 2 | — |
| VEAL ... | *55 | — | — | — |
| TOTAL ... | 110 | 9 | 4 | 2 |

NOTE.—Not only were inspections made at slaughter-houses, but at all shops where food is sold.

* 44 carcasses were immature.

Sale of Food and Drugs Acts.

Dr. Barlow quotes the following Tables :—

MR. LAIRD'S REPORT *re* WORK CARRIED OUT IN WALLASEY, 1909.

TABLE I.

Particulars of samples purchased in the District of Wallasey and submitted for analysis, under the Sale of Food and Drugs Acts, during the year ending December 31st, 1909.

Wallasey Urban District.

| Name of Sample. | No. of Samples Analysed. | No. of Sampls certified as Adulterated. |
|----------------------|-----------------------------|---|
| Butter | 42 | 1 |
| Cheese | 4 | Nil. |
| Coffee | 2 | ... |
| Cream | 3 | ... |
| Fruits Tinned | 4 | ... |
| Gin | 1 | ... |
| Lard | 3 | ... |
| Milk | 59 | 4 |
| Milk, Skimmed | 2 | 1 |
| Pepper | 1 | Nil. |
| Rice | 1 | ... |
| Rum | 2 | ... |
| Vinegar | 1 | ... |
| Whiskey | 7 | ... |
| Totals | 132 | 6 |

Five Samples of margarine were also purchased and in each case the article was served in a properly marked wrapper.

TABLE II.

Particulars of prosecutions under the Sale of Food and Drugs Acts in the Wallasey District during the year ending December 31st, 1909.

| No. | NATURE OF OFFENCE. | RESULT OF PROSECUTION |
|-----|--|------------------------------|
| 1 | Selling Milk having a deficiency of 10 per cent. in its fat | Fined 8/-, also 6/- costs. |
| 2 | Selling Milk adulterated with 20 per cent of water | Fined 20/-, also 14/6 costs. |
| 3 | Selling Margarine as Butter | Fined 2/6, also 14/6 costs. |

Dr. Barlow comments on the above particulars as follows :—

“There is a recommendation of the Board of Agriculture that the number of samples taken should total not less

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than three per thousand of the population, and half of these should be of milk. Our population is estimated at 73,000. If therefore, the recommendation of the Board of Agriculture had been complied with, 220 samples should have been taken, 110 of which should have been of milk. The total number actually taken was 132, 59 of which were milk. I have repeatedly had complaints as to the pooriness of the quality of the milk sold in the district. Indeed several letters have appeared in the Liverpool and local papers on the subject. Although our population has increased by some 2,000, and in spite of the fact that no less than 7 per cent. of the milk samples taken in 1908 were certified as adulterated, I find that the number of samples of milk taken last year is actually 11 less, being 59 as compared with 70 for the previous year."

Offensive Trade. — The offensive trade is a Knaacker's Yard and Manure Works, and 140 visits have been paid to it during 1909.

Wherever a nuisance has been discovered, suitable action was taken.

Inspection of Stable Yards.—2,128 visits have been made as compared with 1,701 during last year.

In several instances manure pits have been emptied by the Department's own men, failing compliance with notices issued under the bye-laws. In other cases accumulations or deposits of an offensive nature have been removed by the Department's men where owners or occupiers had failed to comply with the notices served under Section 49 of the Public Health Act, 1875. In each case the expenses were recovered in a summary manner.

Complaints having been received at the office with regard to a plague of flies which it was alleged came from large accumulations of manure and decaying vegetable matter in Occupation Road, between Leasowe and Green Lane, Wallasey. A meeting took place between the Medical Officer of Health and the Market Gardeners in the Parish Hall, Wallasey, with regard to the disposal of such manure heaps. Arrangements were then come to which, it is hoped, will prevent any cause for complaint in the future.

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In one instance part of an offensive accumulation was removed by the Council in default of owner's compliance with a request to remove. Subsequently, however, the work of removal was completed by the parties responsible.

Green Lane Camp.—Dr. Barlow also records the improved condition of the camping ground in Green Lane, Wallasey. The offensive pits used as privies have been abolished, and proper pail-closets, supplying deodorizing material automatically, have been substituted. Three services of water have also been supplied to different parts of the camp, and 14 galvanized iron ashbins have been provided for the convenience of the campers.

Mussel Gathering.—The following timely warning is issued :—

“ I have often noticed people gathering mussels from the mussel beds on the Egremont shore and at New Brighton. I desire to draw public attention to the danger of eating shellfish taken from such an obviously polluted source as the river Mersey, receiving as it does, the crude sewage of approximately one million people. In several parts of the country prosecutions have been instituted against the vendors of shellfish which was proved to be taken from water contaminated with sewage. It is a matter for serious consideration whether similar steps should not be taken in this district. Notices prohibiting the gathering of these fish are exhibited in various places, but no notice is taken of them.”

Schools.—The medical inspection of school children in this district is not carried out under the direction of the Medical Officer of Health.

By arrangement, the names and addresses of children suffering from such infectious diseases as come to the knowledge of the School Attendance Officers and Teachers, have been sent on by the Director of Education. Those cases in which a doctor was not in attendance were visited by the Lady Inspector, and steps taken to exclude children whose presence might be dangerous to other Scholars.

On several occasions during the year when certain schools seemed to be instrumental in spreading disease, Dr Barlow visited them for the purpose of making enquiries, and examined suspicious children.

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Midwives.—Under the Midwives Act a Local Supervising Authority is either a County Council or the Council of a County Borough. Wallasey is not, therefore, a Local Authority within the meaning of the Act, but the work of supervising the midwives of this district is placed by the County Council on the local Medical Officer of Health.

During the year, all the midwives have been regularly visited.

There are 48 midwives on the Roll, two of whom cannot write. Their registers are on the whole kept well.

The total number of cases attended by midwives was 940.

It was not found necessary to report a midwife to the Local Supervising Authority for any breach of the rules during the year. In 11 instances, however, Dr. Barlow interviewed and warned midwives for slight irregularities which did not appear to him to be gross enough to warrant reporting them; for instance, the reason for one warning was that the midwife had assisted in laying out the dead—a practice which she undertook to discontinue for the future.

WILMSLOW

Urban District.

Medical Officer of Health—DR. ALFRED BYERS.

Population at Census, 1901—7,361.

Population estimated to middle of 1909—8,300.

Area in acres—5,090.

Birth-rate per 1,000 living—19.0.

Death-rate per 1,000 living—11.6.

Death-rate from seven principal Zymotic Diseases—0.96.

Deaths under one year per 1,000 births—50.

Population.—At the census of 1901 this was given as 7,361, and it is now estimated to be 8,300.

Births, Deaths, &c.—One hundred and fifty-eight births and 97 deaths were registered. Two births were illegitimate.

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The birth-rate was 19 per 1,000 of the estimated population, as against 20.5 for 1908, and was 2.2 below the average for the preceeding 10 years.

The death-rate was 11.6, as against 11.2 for 1908, and was 2.0 below the average for the preceeding 10 years.

Of infants under one year, eight deaths were registered, as against seven in 1908. The infantile mortality, that is the rate per 1,000 births, was 50, as against 42.6 in 1908, and was equal to half the average infantile mortality for the preceeding 10 years.

Of the eight deaths under one year, four died before reaching the age of one week, from inanition; two of these were twins, and a third was one of twins. The causes of the remaining four deaths were:—convulsions, whooping-cough, diarrhœa, and pneumonia, respectively.

Excluding deaths under one year of age the following were the causes of death:—

| | | | |
|----------------------------|-----|-----|---|
| Measles | ... | ... | 6 |
| Phthisis | ... | ... | 2 |
| Other Tuberculous Diseases | | | 1 |
| Cancer | ... | ... | 5 |
| Pneumonia | ... | ... | 8 |

No inquests were held during the year, as against two in 1908.

15 cases of infectious diseases were notified:—

| | | | |
|---------------|-----|-----|----|
| Diphtheria | ... | ... | 1 |
| Erysipelas | ... | ... | 1 |
| Scarlet Fever | ... | ... | 13 |

Five of the scarlet fever cases were removed to the Fever Hospital. There were no deaths from notifiable diseases.

House Accommodation for the Working Classes is good and sufficient.

Water-supply.—The water supplied by the Stockport Corporation is obtained from bore-holes in the New Red Sandstone.

Wilmslow Urban District.

It is submitted to a softening process with lime before distribution. The supply is good and ample for all requirements. Some parts of Morley and the Hough are supplied from wells. Samples from four wells in Strawberry Lane were analysed during the year. In one case the water was reported to be "not good," and was not recommended for domestic use. In another the report was "not good," and it was advised that water from the well should not be used if better could be procured. The Analyst's report was not considered by the Council to be sufficiently condemnatory to warrant proceedings under S. 70 of the Public Health Act.

Milk Supply.—The cowsheds have been inspected, and have been found to be fairly well kept.

The Slaughter-houses have been inspected. They were found to be in fair condition. No carcases or parts of carcases have been condemned for tuberculosis during the year. A public slaughter-house is one of the needs of the district.

The Disposal of Excreta is effected by water carriage and ashpit-privies. Where considered necessary, owners have been advised to replace the latter by water closets which are also put in all new houses.

Removal and Disposal of House Refuse.—This is carried out by the occupiers. In many cases the refuse is tipped on Little Lindow.

The Council have obtained possession and enclosed a part of this land, but tipping continues on the adjacent unenclosed portion. Under the present circumstances it is difficult to see how this is to be avoided as no other tip is available.

This is a very unsatisfactory state of things and the time cannot be distant when fresh arrangements will require to be made. It does not appear likely that another tip can be provided within reasonable distance of the village.

The present system is bad and should be abolished. The ashpits are often full to overflowing, and then become a nuisance and a danger to health. If the Council would undertake the collection of refuse and treat it in a destructor, the sanitary condition of the district would be much improved.

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The Lodging-house has been inspected and found to be in a fairly satisfactory sanitary condition.

Factory and Workshops Act.—The usual systematic inspections have been made. Section 22 of the Public Health Acts Amendment Act, 1890, is in force in the district, but no standard of “sufficiency and suitability” of sanitary accommodation has been adopted. The sanitary accommodation is considered to be very satisfactory.

The sanitary condition of the bakehouses is satisfactory. The requirements of the District Council in regard to existing underground bakehouses are complied with.

Schools, Infectious Disease.—Measles was very prevalent during the year, and some of the schools were closed for time in consequence.

Chapel Lane School was closed from January 29th to February 15th, and again from March 22nd to April 19th.

Water Lane School was closed from January 11th to February 1st, and from March 22nd to April 19th.

Chancel Lane School was closed from January 4th to February 1st, and from April 5th to 19th.

The Chancel Lane Infants' School was again closed from September 20th to November 15th on account of whooping-cough.

WINSFORD

Urban District.

Medical Officer of Health—DR. T. W. H. GARSTANG.

Population at Census, 1901—10,382.

Population estimated to middle of 1909—10,656.

Area in acres—5,780.

Birth-rate per 1,000 living—25.5.

Death-rate per 1,000 living—13.3.

Death-rate from seven principal Zymotic Diseases—1.4.

Deaths under one year per 1,000 births—115.

General.—This Urban District consists of the Parishes of Over and Wharton. The area and population of these as given in the Census Report 1901, are:—

| | | | Area in Acres. | Population. | |
|---------------------------------|-----|-----|----------------|-------------|------|
| Over | ... | ... | 4527 | ... | 7063 |
| Wharton (including Gravel Lane) | ... | ... | 1253 | ... | 3319 |

Area.—Unchanged.

Population.—This has been left at the same figure for 1909 as was adopted for 1908, after an enquiry into the number of inhabited houses on the rate-books.

Births.—The number of births (269) is again the lowest on record, and the rate (25.5) is also the lowest. Never before, except in 1907 and 1908, has the number been below 300, or the rate below 30.0. For 1909 the number is 51, and the rate 5.2, below the average. The rate is, however, only 0.3 below that for the whole country. Wharton again has a rate somewhat above that for Over.

Illegitimate Infants.—The number born is 13, or 4.8 per cent. of all births. There were 3 deaths of illegitimate infants, or 23 per cent. of such births, whilst 27 deaths among 256 legitimate births form 10 per cent. Expressed as infant mortality figures these would be 230 and 105.

Deaths.—The number registered in the district was 138, of which 4, occurring in the Infirmary, belong to Middlewich;

Winsford Urban District.

whilst 1 in the Workhouse, and 7 in the Infectious Diseases Hospital have to be added; thus making a total of 142; and the rate is 13.3. This is 1.2 below the average.

Deaths from Zymotic Diseases.—These were 4 from diphtheria, 8 from scarlet fever, and 3 from diarrhœa; total 15; rate 1.4. This is 0.2 below the average; but yet 0.4 above the rate for the whole country for this year. Just three-fourths of the zymotic deaths over a period of 20 years were due to diarrhœa, whooping-cough and measles; and one-fourth only to small-pox, scarlet fever, diphtheria, and enteric fever.

There were also 5 deaths from phthisis, and 2 from puerperal fever.

Infantile Mortality.—The deaths under one year of age were 31, or 9 below the average; and the "mortality figure" is 115, which is 12 below the average. A rather larger proportion of these deaths than usual were practically unavoidable.

Notifications of Infectious Diseases.—All previous records are thrown into insignificance by the receipt this year of the enormous number of 468 notifications; of which, however, 420 were of scarlet fever. This is a case-rate of 43.9 per thousand of population. There were also 3 notifications of phthisis, which are not included above.

Isolation Hospital.—The hospital at Davenham has been under severe pressure all year. During part of the year the old hospital at Marbury was also brought into use. 221 Cases were removed to hospital from Winsford; many more would have gone had there been accommodation. Ten were cases of diphtheria, the remainder scarlet fever; and these of course included most of the worst cases. Three of the hospital cases of diphtheria and four of scarlet fever died; one of the home-treated cases of diphtheria and four of scarlet fever also died. The numbers for scarlet fever being 211 hospital and 209 home cases, the fatality was practically equal, and nearly 2 per cent. Among the small number of diphtheria cases, 3 out of 10 died in hospital, and only 1 out of 15 at home. This is of course explained by the worst cases being selected for removal.

Winsford Urban District.

Vaccinations.—By the courtesy of Mr. Pimlott it is possible to give the statistics for the Over Sub-District of the North-wich Union, of which the town of Winsford forms more than three-fourths. In 1908 225 children were vaccinated, out of 339 surviving; or 66 per cent. This is a decline of 25 per cent. on the figures of the previous twelve years.

Measles.—A few cases; no deaths.

Scarlet Fever.—The whole district has been saturated with scarlet fever throughout the year, in continuation of the epidemic that was raging severely at the end of 1908.

The following are the particulars of the cases:—

| | | | | | | | Removed to Hospital. | | | |
|-----------|-----|-----|-------|-----------------|----------|--------|----------------------|------|----|--------|
| | | | Over. | Meadow Bank. | Wharton. | Total. | O. | M.B. | W. | Total. |
| January | ... | ... | 29 | 3 | 11 | 43 | 14 | 1 | 3 | 18 |
| February | ... | ... | 29 | 4 | 5 | 38 | 8 | 2 | 5 | 15 |
| March | ... | ... | 11 | 3 | 9 | 23 | 7 | 1 | 9 | 17 |
| April | ... | ... | 22 | — | 3 | 25 | 10 | — | 3 | 13 |
| May | ... | ... | 16 | — | 4 | 20 | 7 | — | 3 | 10 |
| June | ... | ... | 14 | — | 5 | 19 | 8 | — | 2 | 10 |
| July | ... | ... | 10 | — | 12 | 22 | 2 | — | 8 | 10 |
| August | ... | ... | 9 | — | 38 | 47 | 2 | — | 28 | 30 |
| September | ... | ... | 15 | — | 34 | 49 | 8 | — | 12 | 20 |
| October | ... | ... | 26 | 5 | 32 | 63 | 15 | 2 | 18 | 35 |
| November | ... | ... | 43 | 1 | 7 | 51 | 24 | 1 | 3 | 28 |
| December | ... | ... | 18 | — | 2 | 20 | 4 | — | 1 | 5 |
| Totals | ... | ... | 242 | 16 | 162 | 420 | 109 | 7 | 95 | 211 |

The Medical Officer of Health thus comments on the outbreak:—

“Several interesting points may be noted. The epidemic, as a whole, abated slightly from January to July, but in the next three months blazed up vigorously by permeating Wharton, which had hitherto almost escaped, and in the last three months returned to Over, with distinct signs of subsidence (by burning itself out) at the close of the year. The removals, compared with the notifications, show the desperate effort that was made, up to July, to keep Wharton clear; and the removals throughout show that no relaxation

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of effort took place in dealing with the epidemic as a whole even when things looked almost hopeless. Twice during the year (May and August) there were periods when removal was impossible owing to overcrowding of the hospital; and the same difficulty in a less acute form was present nearly always. The total cases in 2 years amount to 648; and there is no doubt that further cases existed which never came to our knowledge; for on several distinct occasions children were found (and sometimes in School) in the peeling stage, and were only notified after the Inspector had called in a medical man to make a diagnosis. It would be useless to go into greater detail; the great epidemic is best painted in the above few broad touches. During the latter part of the year the Council engaged the services of a Nurse to act as a sort of "Health Visitor" or Assistant Inspector; and her work in the way of domiciliary visitation and inspection has been of great value."

Whooping-cough.—No information.

Diphtheria.—25 cases occurred, of which 22 were in Over and 3 in Wharton. January had 10 cases in Over and 1 in Wharton; February 7 and 1; March 2; April 2; June 1, all in Over; September 1 in Wharton. Removals to hospital, 5 in January, 3 in February, 1 in March, 1 in September. Antitoxin was regularly administered. Two deaths occurred in January, 1 in February, and 1 in April. As this disease had been unusually prevalent through 1907 and 1908, its disappearance during 1909 is satisfactory.

Enteric Fever.—No cases.

Influenza.—2 deaths, both in March; both males; 55 and 82 years of age.

Diarrhœa, Enteritis, and Gastritis.—Almost unknown; no doubt owing to cold wet summer. Diarrhœa was assigned, with vomiting, as the cause of death of a girl 9 years of age, in February. This can hardly be considered a zymotic death, though it has been counted. A second case was a child, 1 month old, in March; the same remark applies. The third case was a child, 1 month old, at the end of September, bronchitis being also named as a cause of death. No other cases.

Winsford Urban District.

Puerperal Fever.—9 cases occurred, with 2 deaths. The first case was in February; died on the 7th day after confinement, a doctor in attendance throughout, also midwife "No. 1." The same midwife had attended, by herself, another case 10 days earlier, which was notified on the 18th day, 10 days after she had ceased attendance. No fault, therefore, was proved, but she consented to abstain from practice for a fortnight, and undergo disinfection. She had had no previous cases of puerperal fever, among 50 confinements in 5 years. The third case was also in February; attended by midwife "No. 2" (illiterate); and doctor was sent for on 7th day. She had a previous case in November, 1907; one in May, 1908 (fatal); and one in June, 1908; among 130 confinements in 5 years. The fourth case was in April, and was fatal; a doctor in attendance; nursed by midwife "No. 3." She had been connected with 3 previous cases in 1907, but no responsibility proved; she had had 170 confinements in 5 years. The fifth case was in April, attended by midwife "No. 4"; who had had no previous cases; and had attended 156 confinements in 5 years. The sixth case was in August; midwife "No. 3" attended alone; called in doctor on fifth day, who notified on eighth day. The seventh case was in September, no midwife concerned. The eighth case was in September, doctor and midwife "No. 3" both in attendance. Case notified on eighth day, when midwife ceased attendance. The ninth case was in November, again midwife "No. 3" in attendance alone; ceased attendance on eighth day; case notified by doctor following day.

Every case was carefully inquired into; in none could any carelessness or neglect be proved. Any suspicions one may now have are based upon the facts above recorded (as to number of cases occurring in practice of one midwife) rather than upon any definite evidence obtained at the time (as to any individual case).

Erysipelas.—14 cases notified; none of them of any importance.

Phthisis.—3 cases notified; 5 deaths. Rate 0.47. This is one of the lowest rates recorded. The deaths were all of females, between 21 and 31 years of age.

Disinfection of the house is always offered, after a death occurs. Such supervision as is possible, which is not much, is exercised during life, when a case is notified.

Winsford Urban District.

Other Tuberculous Diseases.—3 deaths ; one from peritonitis, two from meningitis ; all males, 5, 6 and 7 years of age.

Cancer.—12 deaths ; Rate 1.12. 8 males, 4 females. Ages, two at 70, eight between 60 and 70, one at 56, and one at 6 years. (The last is an unusual age). Organs affected, stomach 4, liver 2, bowels 2, pancreas, uterus, breast, and bones, 1 each.

Systematic Inspection.—This has been in abeyance during 1909. Attention to cases of infectious diseases, superintending removals to hospitals, and disinfecting houses, have more than filled up the Inspector's ordinary working time. These, with other duties of his office, have filled up all his "spare" time as well.

Inspections will, however, be continued in the current year, as soon as possible.

Schools.—Nearly all the Schools in the district were specially visited, and the scholars examined, at one time or another, in course of efforts to discover the cause of various groups of cases of infectious disease ; but no definite results were obtained.

Dr. Garstang concludes :—

"It is impossible to exaggerate, or even adequately to acknowledge, the amount and value of the work that has been carried out by the Inspector. Twice he was within a short distance of a serious break-down in his own health. Holidays were unknown. As I said last year, "he has worked Sundays and week-days, night and day ;" but the work required in 1909 has far exceeded that in 1908, although I thought then that we had reached the limit of possibility."

"We must also jointly thank the Council for the steady support that has been given us in our efforts to deal with the scarlet fever epidemic, even through the trying time when it was obvious that it had "got out of hand," and we take legitimate pleasure in asserting that those efforts were never relaxed."

Sanitary Inspector's Report.—The following extracts are of interest in Mr. T. Hickson's Report :—

Winsford Urban District.

Dairies and Cowsheds.—172 notices to cleanse and lime wash premises, &c., have been served on owners or occupiers, and there is no complaint as to this not being carried out. In some of the older buildings, however, owing to structural conditions, it is difficult for the occupiers to maintain an efficient standard of cleanliness, and these places have been subject to a more frequent inspection.

Dr. Garstang and myself have made special visits during the year, with the result that notices or letters have been sent in six instances dealing with defects in lighting, ventilation, drainage, &c., and the matters complained of have been remedied.

Factories and Workshops.—These places have been kept under frequent observation, and matters requiring attention have been dealt with. The sanitary arrangements at many of the Factories are fairly good, and the conditions as to cleanliness, &c., generally satisfactory.

Home Work.—Messrs. Crook & Sons, the only factory on the Register where Home work is given out, have supplied two lists, one in February, and one in August, each list containing eight names. The homes where this work is carried out have been found clean and wholesome, and no instances of overcrowding discovered. Cases of scarlet fever, however, occurred in two houses, and in each instance the matter was promptly and effectively dealt with.

Canal Boats.—Only 8 boats on the Register, all being of the river class, viz.: steamers and barges. The boats were found, on inspection, to be clean, well looked after, and the general condition fairly good. The infringements noted were of minor importance, and have been remedied without difficulty. There are a large number of boats in this class plying on the River Weaver, but as most of these are registered under the Merchant Shipping Acts, they do not come under the direct supervision of the Council.

Slaughter-houses.—There are 21 in the district, 20 being licensed and 1 registered. These places have all been visited and inspected several times during the year; any defects or nuisances detected have been satisfactorily dealt with.

Winsford Urban District.

Common Lodging-houses.—Only 2 on the Register, both being in Over. The premises at each inspection were found to be clean and well conducted. No infringement of the regulations has been discovered.

Vans used as Dwellings.—30 inspections made at the Fair ground in Over and at other parts of the district; no infringements noted.

Overcrowding.—4 cases have been discovered and dealt with during the year, the nuisance in each case having been abated.

Privy Middens.—The number in use in the district is 1356; these have as usual been scavenged four times during the year, the contents being distributed on open land, well removed from the inhabited parts. Six privy middens have been converted into pail closets, and eight substituted by water closets. A further summary of defects and nuisances dealt with appears in the table under this head.

Peat Pails.—The number now in use is 400, being an increase of six for the year. The pails are changed and cleansed once each week, the work being carried out by the Council's employees in covered wagons. The contents are distributed on land approved by the Council.

Water-closets.—There are 640 now in use in the district; this is an increase of 21 for the year, 13 being attached to new houses, and 8 being substituted for privy middens.

Ashpits.—The whole of the ashpits in the district are scavenged at the Council's expense once each month. The deposits are taken on to waste ground belonging to the Council, or to other suitable places which, from time to time, the Council may approve. Each ashpit and ashbin is disinfected after the contents are removed.

Disinfecting.—413 houses in the district, where infectious disease has occurred, have been disinfected, also the bedding, clothing, &c., having been in contact with infectious patients, has been disinfected or destroyed. Nine Schools in the district have been disinfected twice, and three Schools once, after infectious disease.

Winsford Urban District.

Infectious Disease.—All cases of infectious disease have received personal attention, immediately on being notified. The infected house has been visited, the circumstances affecting the case investigated, and precautionary measures, as to isolation, &c., promptly adopted. Disinfectants have been widely distributed by the Council, free of charge, and instructions as to their proper use given to the persons responsible. Owing to the excessive number of cases occurring, many patients of necessity have had to be nursed at home, and in these cases a regular and strict supervision of the house and inmates has been sustained; disinfecting and cleaning of the premises being carried out, on the recovery or death of the patient.

All matters of importance have been reported in detail to the Council and to Dr. Garstang, and I feel grateful for the consideration and help each has rendered, amid the difficulties of what has been a most strenuous year.

YEARDSLEY-CUM-WHALEY

Urban District.

Medical Officer of Health—DR. T. A. WELCH.

Population at Census, 1901—1,487.

Population estimated to middle of 1909—1,640.

Area in acres—1,323.

Birth-rate per 1,000 living—25.0.

Death-rate per 1,000 living—7.3.

Death-rate from seven principal Zymotic Diseases—0.6.

Deaths under one year per 1,000 births—49.

Population, Births and Deaths.—At the Census of 1901 the population was returned as 1,487; it is now estimated to be 1,640. This shews an apparent increase of 153, or about nine per cent.

There have been 41 births registered during the year, which gives a birth-rate of 25 per 1,000.

The number of deaths registered in the district is 12, giving a death-rate of 7.3 per 1,000.

For the preceding 10 years the average birth-rate was 24.1, and the average death-rate 13.4.

Yeardsley-cum-Whaley Urban District.

There have been only two deaths of infants under one year of age, giving an infantile mortality of 48.7 per 1,000 of births registered. The average infantile mortality for the preceding ten years was 94.8 per 1,000.

The death-rate this year is lower than it has been for ten years, and the birth-rate is above the average for the last ten years.

The causes of deaths are as follows :—Senile decay, 1 ; heart disease, 3 ; pneumonia, 1 ; premature birth, 1 ; suppurative tonsilitis, 1 ; scarlet fever, 1 ; bronchitis, 2 ; marasmus, 1 ; shock and exposure, 1.

Infectious Diseases.—A few cases of scarlet fever occurred in your district during the latter part of the year. Notwithstanding every effort to stamp out the disease, cases of scarlet fever were notified every month until the middle of June, 1909. On September 16th, 1909, three cases in one house were notified, but the disease did not spread. Since that date the district has been free from all infectious diseases.

Altogether 25 cases have been notified. Of these, 23 were scarlet fever, and the remaining two, erysipelas and diphtheria. Of the fever cases, 15 were sent to Hyde and the High Peak Isolation Hospitals, and eight were satisfactorily treated at home. The cases of diphtheria and erysipelas were also treated at home.

Water-supply.—The water-supply of the district continues satisfactory as regards quality, and is sufficient in quantity to supply all ordinary requirements.

Factory and Workshops Act.—All the factories and workshops have been inspected from time to time, and were found in a satisfactory condition.

Dairies, Cowsheds, and Milkshops Act.—All the dairies and cowsheds have been visited, and the ventilation, air space, and drainage, have been found generally satisfactory.

Slaughter-houses.—The two slaughter-houses have been found to be kept in a satisfactory condition.

Offensive Trades.—The two places where offensive trades carried on comply with the bye-laws for such trades.

Yeardsley-cum-Whaley Urban District.

Refuse Disposal and Drainage.—The district is mainly supplied with ashpits and privies, and a few houses have pail closets. These are all emptied at stated times and the contents removed. There are a number of houses which are provided with water-closets. These, with a few exceptions, are connected with cess-pools, whilst all ultimately drain into the River Goyt. The Inspector of the Mersey and Irwell Committee has complained frequently about the pollution of the River Goyt in this district.

In September, 1907, a joint meeting of the members of the Yeardsley-cum-Whaley Urban District Council, Chapel-en-le-Frith Rural District Council, and Macclesfield Rural District Council was held to discuss a Joint Sewerage Scheme. It was decided at this meeting (1) to invite Messrs. Swan and Brady, Engineers, to draw up a report, (2) to include the Furness Vale portion of Yeardsley-cum-Whaley, and (3) to invite Disley, a neighbouring authority, to participate. In December, 1908, another joint meeting was held at which it was decided to apply to the Local Government Board for the constitution of a joint sewerage district. Disley agreed to join in the scheme. On March 12th the Local Government Board held an enquiry in Whaley Bridge, and in June, 1909, sanctioned the formation of a joint sewerage district, which comprises the Urban District Council of Yeardsley-cum-Whaley, and the Rural District Councils of Chapel-en-le-Frith, Disley and Macclesfield. This is called the "Whaley Bridge Sewerage District."

Each district elects a proportionate number of its members to form a Joint Board, and this Board met for the first time in January last.

Inspections.—The whole district has been inspected, and any defects discovered have been remedied. Twelve notices to abate nuisances have been served by the Inspector, and all have received attention.

New Houses.—Three new houses have been built and inhabited during 1909.

Canal Boats.—Two canal boats have been inspected during the year, and were found to comply with regulations.

BUCKLOW

Rural District.

Medical Officer of Health—DR. T. W. H. GARSTANG.

Population at Census, 1901—19,890 (Census Report, 1901).

Population estimated to middle of 1909—23,218.

Area in acres—57,651 (Census Report, 1901).

Birth-rate per 1,000 living—18.9.

Death-rate per 1,000 living—11.6.

Death-rate from seven principal Zymotic Diseases—0.3.

Deaths under one year per 1,000 births—66.

For registration purposes, this district has long been divided into four sub-districts. These are as follows:—

1. Altrincham, having an area of 11,854 acres, includes Baguley, Timperley, Ringway, Ashley, and Dunham Massey.
2. Lymm, having an area of 14,498 acres, includes Carrington, Partington, Bollington, Warburton, High Legh, Agden, Millington, and Aston-by-Budworth.
3. Knutsford, having an area of 20,811 acres, includes Tabley (Superior and Inferior), Mere, Rostherne, Tatton, Marthall, Peover (Superior and Inferior), Ollerton, Toft, Bexton, Plumbley, and Pickmere.
4. Wilmslow, having an area of 10,488 acres, includes Styal, Mobberley, Northenden, and Northen Etchells.

A fifth sub-district has quite recently been made. The Township of Baguley (taken from Altrincham sub-district), Carrington (taken from Lymm sub-district), and Northenden (taken from Wilmslow sub-district), make the new Sale sub-district as far as the Rural District is concerned.

The population of this Rural District was 19,890 at the Census in 1901, and the population of the corresponding area was 17,793 at the Census in 1891. The increase of the population during the decennium 1891–1901 was thus 2,097, that is, 11.7 per cent. The estimate of the population made for the middle of 1908 assumes that the population since the date of the Census continues to increase at about the same rate.

Bucklow Rural District.

For the purposes of statistical calculations the Medical Officer of Health excludes a population estimated for 1908 at 1,008, inhabiting the Manchester Consumption Hospital in Dunham Massey, the Baguley Sanatorium and a temporary Small-pox Hospital belonging to Manchester, the Cottage Homes at Styal, the Epileptic Colony in Marthall, and "2 or 3 houses" belonging to the Chendale Royal Asylum in Northen Etchells.

The ordinary staff inhabiting these Institutions is however included for statistical purposes so that the net resident population appears to be 22,366.

Births.—The births registered are 224 males and 199 females, total 423; rate 18.9. The rates for the sub-districts are 19.6, 18.7, 17.0, 14.3, 24.0. The rate for England and Wales is 25.6, and for country districts the same. Bucklow is therefore 26 per cent. below these.

Deaths.—The total number, after correction, is 259, and the rate 11.6. This has only once been bettered (1908, 11.1).

Corrections for deaths in public institutions have been made, as follows:—By excluding two in the Consumption Hospital, 13 in the Baguley Sanatorium, and 10 in the Epileptic Colony; and by including 12 in the Knutsford Workhouse, six in the Altrincham Hospital, three in the Manchester Infirmary, and one each in the Salford Infirmary, Ancoats Hospital, Stockport Infirmary, Crossley Sanatorium, and Ashton-on-Mersey Nursing Home. Eight deaths have been also excluded which occurred in roads, rivers, and canals, such deaths being reported to the Medical Officers of Health of the respective districts; and three similar ones have been accepted and included. One death remains in the list owing to failure to identify a drowned body.

Deaths from Zymotic Diseases.—These only numbered eight, and gave the inconsiderable rate of 0.35. One was a death from diarrhœa (no other cause assigned) in December of a woman 73 years of age. This was obviously not a true zymotic death. Two were deaths of babies from diarrhœa in September and December, and, as they are the only ones, there are doubts about those. The others were four deaths from scarlet fever and one from measles; these five would give a zymotic death-rate of 0.22 only, and this would probably be more accurate than the 0.35 above named.

Bucklow Rural District.

It is an extraordinarily good return, and 1907, with only six deaths, is the only year, out of twenty, with anything approaching such a record.

Infantile Mortality.—The number of deaths of infants, under one year, is 28 ; and the infantile mortality figure is therefore 66. This is 41 below the average, and 32 below the figure for the whole country for 1909.

For the different sub-districts the figures would be 50, 36, 98, 60, 92.

This again is a most satisfactory position ; and taken in connection with what has been said above, as to general death-rate and zymotic death-rate, makes 1909 one of the best years ever reported on.

The Bucklow District contains areas which are rapidly becoming more “urban” than “rural,” which therefore have a class of population, and conditions of life, less favourable to the attainment of ideal vital statistics.

Illegitimate Infants.—The number born in 1909 was 14, or 3.3 per cent. of all births. Of these one died, or 7.1 per cent. ; whilst 27 deaths occurred among 409 legitimate infants, or 6.6 per cent.

Notification of Births Act.—This has not been adopted, as the district is not considered to have great need of it ; and its administration would be more difficult and costly than the circumstances warrant.

Mortality among Old People.—No less than 104 deaths occurred among persons over 65 years of age, or 40 per cent. of all deaths.

Uncertified Deaths.—None. There have only been 5 cases in the last 8 years, among 2044 deaths.

Coroner's Inquests.—11 were held in the district on persons belonging to other districts ; 14 on residents ; and 3 in other districts on persons belonging to this district.

Bucklow Rural District.

Notifications of Infectious Disease.—The total, 206, is the largest on record, except only the 240 of 1893, (when the district included 3 large townships which have since become independent.) Diphtheria (7) is the lowest number since 1899; enteric fever (41) would have been only a single case but for an epidemic of 40 cases in the Epileptic Colony; so the increase is practically due to an exceptional prevalence of scarlet fever (156). Partington contributed 23 cases and Carrington 22, in one definite epidemic; Northenden had 20; and Dunham Massey and Timperley had 28 and 23, respectively, without any real epidemic. This accounts for 116. Of the remainder Warburton had 6; Styal and Plumley 5 each; High Legh and Northen Etchells 4 each; four Townships 2 each; eight Townships 1 each; and 8 Townships none at all; so that, in spite of several localised outbreaks, the greater part of the district was practically unaffected.

Small-pox.—None.

Vaccination.—These figures include the Urban Districts within the Area of the Bucklow Union, as explained in detail in the Annual Report, 1901. The figures are given for the two half-years of 1908; then the totals for the twelve years next preceding. In 1908, out of 1948 surviving children, 1550 are known to have been vaccinated; or 79 per cent.

This is a heavy drop from the 90 per cent. of 1907, which was itself the first drop from a regular average of from 94 to 98 per cent. which had obtained in the Bucklow Union for many years past, and the probability is that the percentage of unvaccinated children will grow.

Bucklow Rural District.

| | Births. | Successfully Vaccinated. | Insusceptible. | Had Small-pox. | Died Unvaccinated. | Postponed on Certificate. | Removed and Traced. | Lost. | Number Remaining. | Conscientious Objections. |
|-------------------------------|---------|-----------------------------|----------------|----------------|-----------------------|------------------------------|------------------------|-------|----------------------|------------------------------|
| Altrincham ... | 430 | 322 | 3 | — | 29 | 6 | 2 | 7 | — | 61 |
| „ ... | 385 | 291 | 4 | — | 25 | — | 3 | 2 | — | 60 |
| Lymm ... | 81 | 64 | — | — | 6 | 1 | — | — | — | 10 |
| „ ... | 85 | 62 | — | — | 6 | — | — | — | — | 18 |
| Knutsford ... | 104 | 81 | — | — | 4 | 1 | — | 3 | — | 15 |
| „ ... | 123 | 91 | — | — | 13 | 1 | — | 1 | — | 17 |
| Wilmslow ... | 104 | 58 | 1 | — | 4 | 15 | 4 | 3 | — | 19 |
| „ ... | 132 | 72 | 1 | — | 1 | 22 | 3 | 4 | — | 29 |
| Sale ... | 326 | 274 | 1 | — | 18 | 4 | — | 5 | — | 24 |
| „ ... | 320 | 235 | 3 | — | 36 | 6 | 4 | 11 | 1 | 24 |
| Totals .. | 2090 | 1550 | 13 | — | 142 | 56 | 16 | 36 | 1 | 277 |
| 1896 to 1907 inclusive ... | 23027 | 19739 | 196 | — | 1828 | 648 | 118 | 218 | 19 | 265 |
| Grand Totals | 25117 | 21289 | 209 | — | 1970 | 704 | 134 | 254 | 20 | 542 |

Measles.—Various small localised outbreaks occurred ; and occasionally schools were closed (by the Managers) for short periods. One child, aged 9 months, died at Carrington in March.

One small, but very interesting outbreak may be recorded, to point out how easily it was dealt with. On November 1st, 8 cases were known at St. Alban's School, Broadheath. Miss Fletcher, the mistress, ascertained that a concealed case had occurred about October 19th, a baby under school age, but in a house from which 3 scholars came. The next case was reported on October 29th ; and there were 8 on November 1st, when 127 children were present out of 172 on the books. It seemed likely therefore that the next "crop" might be expected about November 10th to 16th. The Council issued a closing order, covering the period from Thursday 4th to Friday 19th ; and the School re-opened on Monday 22nd clear of disease. Miss Fletcher accepted service under the Council during the closure ; and

Bucklow Rural District.

visited all known cases each day, enquired as to occurrence of new cases, and gave advice to parents as to keeping sick children in bed, and convalescents and contacts isolated from neighbours as far as possible. On November 8th there were 9 cases in all; on the 9th no less than 11 new cases; by the 12th 8 more; by the 18th 6 more; by the 22nd 7 more; total 41 known cases (or probably more, as the earlier convalescents would be dropped out of the later returns of existing cases). Upwards of 30 houses were affected, inhabited by upwards of 80 children. Nevertheless the epidemic spread no further, but died out; and, what is of infinitely greater importance, no lives were lost. The School was only closed for two days over two weeks, owing to action being prompt and at the right moment. Had closure been delayed, its duration would have needed to be longer, and more children would have been involved.

Similar results following similar action have followed in many instances in various years. **The domiciliary visitation and daily supervision is the important point.**

Scarlet Fever.—156 cases notified, 4 deaths. The principle epidemic affected Partington and Carrington. The first two notifications were received from Partington on April 14th. The village was visited the same day. It was then found that the infection had been introduced from Cadishead some time previously, and that one of the cases had run its course without being recognised until it caused the second case; and the after history of the epidemic makes it morally certain that there were other unrecognised cases also. Within a week seven cases were known of in 4 houses. In May there were 11 more cases, and 7 in Carrington. In June three in Partington and five in Carrington. In July one in Partington and 7 in Carrington. In August 1 in Partington and two in Carrington. In September one in Carrington. Total: 23 in Partington, 22 in Carrington. The April Partington cases were not removed; but 14 of the last 16 were taken to hospital, as well as the whole of the Carrington cases, except the odd one in September, which was an infant under two years of age: and this also, curiously, was the only one that died.

At Northenden there were 5 cases in January (4 removed); in February 4 cases (3 removed); in March 1 case (removed); in April 2 cases (removed to hospital, suffering also from measles and pneumonia; both died), in May 5 cases (all removed); in June 1 case (removed); in July 1 case; and in October 1 case (removed). In Timperley and Dunham Massey the condition was just the same;

Bucklow Rural District.

i.e., a few cases (0 to 7) in each Township, each month ; all but a very few being removed to hospital. There was no general connection, and therefore no "epidemic." Northenden is always liable to receive infection from its contiguity with Manchester and Sale ; and from its being the resort of very numerous trippers in the summer. Timperley and Dunham Massey are contiguous with Altrincham.

The remaining cases need not be described at length. One case in Warburton died.

Whooping-cough.—Not prevalent ; no deaths.

Diphtheria.—Only 7 notifications ; no deaths ; 6 removed to hospital. The cases were very widely scattered, both in locality and in time ; and were un-connected with each other.

Enteric Fever.—Only one case occurred in the district proper ; this was in Timperley, in February ; origin not ascertained. It was removed to Monsall Hospital, and proved fatal.

The David Lewis Homes (known as the Epileptic Colony) at Marthall, number on an average 291 inmates, viz., 67 Staff and 224 patients. A case of scarlet fever was notified from the Porter's Lodge, on September 20th, removed to hospital on the 25th, and discharged on November 13th. On October 7th, 8th, and 9th, three inmates were notified as having scarlet fever ; and on the 11th three more, whilst a nurse, a maid, and two inmates were notified as cases of enteric fever. On the 14th two more cases of scarlet fever and two more of enteric fever were notified ; and on this date Dr. Garstang visited the Colony, at the request of Dr. McDougall, the resident Medical Officer.

Dr. Garstang proceeds :—

"Very fortunately I was able to secure the services of Dr. Rhodes from the Baguley Sanatorium (Infectious Diseases Hospital), and he very kindly accompanied me. After a most careful examination of a number of patients, all showing a rash of one kind or another, we were able to pronounce some to be certainly enteric fever ; and Dr. Rhodes finally formed the opinion that those notified as scarlet fever were probably not scarlet fever. A few days proved that this was perfectly correct, and that the curious scarlatiniform rash must have been prodromal of enteric fever. The notifications were therefore all altered to enteric

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fever ; and 12 additional cases were notified on the 16th. In all, 39 cases had been notified by the end of October, and three occurred during November. Four were members of the Staff, the remainder patients. Two more cases were heard of, in patients who had been discharged at the end of September. One case, a patient, turned out to ail nothing at all, having been included owing to an accidental rise of temperature which disappeared in 24 hours. Another case, a cook, was undoubtedly very ill, but her blood gave no Widal reaction after being tested five times with different strains of bacteria. Probably this was a case of tuberculosis. The other 40 were all enteric fever cases ; and 36 of them recovered. The four who died were all cases of severe epilepsy ; and it is permissible to assume that the epilepsy, either directly, or by increasing the enteric troubles, was as much responsible for the deaths as was the enteric fever.

“Immediately after October 14th bacteriological examinations were obtained (at the Public Health Laboratory, Manchester), on an extensive scale. Dr. Allen, the junior resident medical officer, kindly undertook the task of obtaining the blood-samples and forwarding them. Seven gave negative results in the first instance, but positive results a few days later. The rest gave positive results at once ; that is, all notified cases were confirmed, (except the two above-named, who are not included in the list). Many other cases were examined, which gave negative results ; but at least two of the cases were discovered in this systematic examination, who had no clinical symptoms, and were not under suspicion. First, of course, all suspected cases were examined. Then every individual, whether inmate or extern, who worked in the cowshed or dairy. Then everybody connected with the kitchen. Then miscellaneous individuals from the houses which had the largest number of cases. But we never obtained proof of a true ‘carrier’ case, and we never discovered with certainty how the epidemic arose.

“So much for facts. Now for theories. 36 genuine cases occurred between October 7th and 30th ; 25 of them between the 7th and the 16th. The earliest cases were scattered throughout every one of the numerous houses on the estate. This suggests that the poison was conveyed in some articles of food, common to all the houses ; and milk immediately offers itself as a probable vehicle. Now the milk is obtained from cows kept at a small farm within the grounds of the Colony. Every building on the estate is supplied with water from the mains of the Stockport Corporation, except the engine-house and the farm. Water is

Bucklow Rural District.

pumped from the adjacent small stream into a large tank, to feed the boilers. The same water was at this time supplied to the farm, and used for washing the milk-cans. (It has since been discontinued here, and the other substituted). True it is stated to be *always* boiled. If we assume that on one or two occasions it was not boiled, and that coincidently the stream was fouled with typhoid excreta, we have a reasonable and logical explanation of the phenomena observed. No proof could be obtained on either part of the hypothesis; but the first is inherently probable, and as to the second I would remark that there are many tramps, and that the stream, a little higher up, is close to the Manchester-London high road. And even if this theory be adjudged improbable, it is nevertheless the only one which has been suggested; enquiries in all other possible directions having yielded no result, although pushed so far, for instance, as an examination of some of the drugs used in the dispensary.

“The Colony was visited by the County Medical Officer of Health, during the epidemic, to inspect the sewage disposal works, as the estate is bounded on one side by the Pedley Brook, which forms part of the water-supply to the town of Knutsford. The Board of Management also employed Mr. G. J. Fowler to inspect and advise on the working of the same. The Knutsford Urban Council also made an inspection of the brook, as too did the Water Company.”

Influenza.—Eight deaths, all males; 6 in March, with 1 in April; one in October. In various Townships.

Diarrhœa and Enteritis.—One case of enteritis was certified in October.

Puerperal Fever.—Only 1 case notified (Carrington, February), removed to Monsall Hospital, and recovered.

Erysipelas.—Only 1 case notified; of no importance.

Phthisis.—Fourteen deaths; rate 0.63. Timperley and Northenden had three each; the others were scattered; eight Townships having one each. Seven males, seven females. Ages from 23 to 64 years; average 42 years. This is a much higher average age than usual. Disinfection of premises is offered in all cases after death. Some supervision of known

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sufferers is attempted, but to carry out any scheme systematically in a district where the distances to be traversed are so great would require the employment of a special officer.

Other Tuberculous Diseases.—Two deaths in Timperley; four scattered in four other Townships. Ages from 5 months to 34 years; average 16 years.

Cancer.—Twenty-nine deaths; rate 1.29. Eight cases occurred in Northenden, three each in Timperley and Styal, two each in Warburton, Partington, Tabley Superior, and Carrington, and seven were scattered in seven other Townships. Ages from 41 to 84 years; average 64 years. Thirteen males, sixteen females. Among the former nine were affections of the digestive system, two of the bladder and two of the neck; among the latter four were of the breast, three of the uterus, and nine of the digestive system.

Isolation Hospitals.—These were fully described in a previous Report (1908).

Since removal to Hospital was commenced in 1898, the numbers have been:—

| Year. | Notifications. | Removals. | Percentage. |
|-------|----------------|-----------|-------------|
| 1898 | 46 | 5 | 10 |
| 1899 | 106 | 16 | 15 |
| 1900 | 96 | 42 | 43 |
| 1901 | 158 | 50 | 31 |
| 1902 | 102 | 27 | 27 |
| 1903 | 97 | 57 | 59 |
| 1904 | 117 | 63 | 54 |
| 1905 | 108 | 43 | 40 |
| 1906 | 106 | 51 | 48 |
| 1907 | 72 | 43 | 60 |
| 1908 | 105 | 69 | 66 |
| 1909 | 206 | 173 | 84 |

This is an extremely creditable record. The cases in 1909 at the Epileptic Colony are counted as Hospital cases.

Water-supply.—The Mains of the North Cheshire Water Company have been extended to the village of Dunham Town. The wells had failed, owing to the subsoil drainage effected by

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the cutting for the new sewer; and for some time the Council had been obliged to supply water by a water-cart.

Sewage Disposal.—The Dunham Massey scheme, commenced in 1898, has been completed in 1909. It has been so often described that I need say no more on this occasion. The works in Timperley and Northenden remain as before.

The Surveyor, J. McD. McKenzie, adds the following under this heading:—

“Main sewers have been extended in the Townships of Timperley and Northen Etchells; 95 yards of 12-inch sewer in Styal Road, Northen Etchells; 82 yards 9-inch sewer in Park Lane, Northen Etchells; and 45 yards 9-inch sewer, Brook Lane, Timperley; with the necessary manholes and ventilators.

The main sewers and sewage disposal works of Dunham, Northenden and Timperley are working in a satisfactory manner. The Mersey and Irwell Joint Committee's monthly analyses of effluents record good results. The planting of willows at Dunham Massey and Northenden is contemplated. At Dark Lane (Timperley outfall tanks) new spreaders have been fixed on cinder filters to obtain a more efficient spread. In the near future additional tank accommodation and filter area will have to be provided to efficiently cope with the wet weather flow. The question of the polluted condition of the Sinderland Brook, Dunham Massey, received earnest attention during the year. A special report from the Mersey and Irwell Joint Committee on the subject was issued in September. In this report it was pointed out that the distribution over the top of cinder filters at Dark Lane tanks was defective, and new spreaders were immediately fixed, and are working well.”

Dairies and Cowsheds.—Between April and November (inclusive) the Medical Officer of Health accompanied Mr. Metcalfe on special journeys of inspection to every township in the district. Some townships received two, three, or four, special visits. At each visit a certain number of premises were selected for careful inspection; generally those which previous experience led them to believe most required it. This is quite separate from the systematic detailed inspection of individual townships which Mr. Metcalfe makes throughout the year. As regards structural points the general condition is

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now very fair. (There are a few exceptions). But there is still room for great improvement in the work done, or rather not done, by the cow-keeper. It is quite common to find a shed which at 11 or 12 o'clock has not received its morning clean-out. The cleansing, when done, rarely includes the surfaces of the walls. And in far too many cases the cattle do not receive the grooming which they require, and hind-quarters and tails are found caked with dried dung.

Factory and Workshops Act, 1901.—The Surveyor reports on this matter as follows:—

“Systematic inspections under the provisions of the above Act have been carried out during the year, the entire district being visited in company with Dr. Garstang (the Medical Officer of Health). The register at the close of the year shows 39 factories, 129 workshops, and 106 workplaces, making a total of 274. Inspections to the same number were made, and the following defects were found, and formal notices served by order of the Council to remedy same:—

| | | | | |
|---|-----|-----|-----|-------|
| Want of Cleanliness | ... | ... | ... | 22 |
| Defective Floors | ... | ... | ... | 2 |
| Sanitary Accommodation insufficient and deficient | | | | 2 |
| | | | | <hr/> |
| | | | | 26 |
| | | | | <hr/> |

There are now four out-workers in the district; two in Timperley, and one each in the townships of Northenden and High Legh; the latter being a file cutter working for a firm in Warrington.

Complaint notice was received from H.M. Chief Inspector of Factories, of excessive steam in wash-house, due to inadequate ventilation, at one laundry in Timperley. This matter is receiving attention.”

Canal Boats.—During the year 33 visits have been paid and 77 inspections made of boats within the Council's district. No formal notices have been served. The boats were registered to carry 342 persons, and 173 were on board, viz., 124 men, 44 women and 5 children; the latter were under school age.

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No defects were noticed; the general condition of the boats inspected being the best on record. The emptying of bilge water is still a sore point, and one that receives the closest attention. The oversight of this class of boats is keen, constant, and very complete. Four boats were directly engaged in the nightsoil manure traffic.

Mr. Metcalfe, Sanitary Inspector, also reports specifically on the following matters:—

Food Inspection.—Special attention has been paid to this department, and many visits were made to premises where the various foods were exposed for sale, or were in preparation for sale. There were no seizures or surrenders during the year, nor any complaints from anyone as to having purchased any food that was unsound in any way.

Slaughter-houses.—There are 16 slaughter-houses in the district, and these are frequently visited. These premises are usually found to be clean, and the business well-conducted; it was, however, necessary during the year to draw the attention of three of the occupiers to irregularities under the Bye-laws.

House to House Inspection.—This work has been continued, and 147 houses were inspected. Statutory notices were served where defects were discovered. The total number of houses inspected to date is now 642.

House Drainage.—Many houses have been re-drained and new fittings provided where required. Structural alterations to the houses were carried out in nearly every case.

The greatest number dealt with were in the township of Dunham Massey, where the work of connecting up to the new sewers goes steadily on.

A big effort will be made to get all the houses in the districts of Woodhouses, Lowerhouses and Dunham Town connected up during 1910.

Smoke Nuisances.—Several complaints were received during the year. The bulk of these were in connection with the chimneys of the Ammonia Soda Co's. Works at Plumbley, and by the time this Report is in print, statutory notices will have been served for the abatement of the nuisance. Many

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observations were taken and charts prepared showing the length of time black smoke was emitted from the different chimneys. Special attention will be given to this department in 1910.

Removal of Refuse.—Dunham Massey, Timperley and Northenden.—The scavenging in Northenden has been carried out by contract, and in Dunham Massey and Timperley by the Council's own staff of workmen.

CHESTER.**Rural District.**

Medical Officer of Health—DR. G. A. KENYON (Deceased).

Population at Census, 1901—

Population estimated to middle of 1909—11,958 (including 1,144 in the Asylum and Workhouse).

Area in acres—35,517.

Birth-rate per 1,000 living—26.4.

Death-rate per 1,000 living—13.5.

Death-rate from seven principal Zymotic Diseases—1.25.

Deaths under one year per 1,000 births—87.

Owing to the death of Dr. Kenyon, on March 6th, 1910, this Annual Report has been prepared by Dr. Vacher, late Medical Officer of Health for the County.

For purposes of registration, this district has been subdivided as under :—

- 1.—Chester Castle, having an area of 10,960 acres, includes Christleton, Littleton, Great Boughton, Chester Castle, Marlston-with-Lache, Eccleston, Eaton, Poulton, Pulford, Dodleston, Lower Kinnerton, and Claverton.
- 2.—Chester Cathedral, having an area of 24,557 acres, includes Blacon-cum-Crabhall, Bachc, Newton-by-Chester, Wervin, Croughton, Moston, Upton-by-Chester, Lea-by-Backford, Mollington, Backford, Chorlton-by-Backford, Caughall, Hoole (part of), Mickle Trafford, Bridge Trafford, Picton, Thornton-le-Moors, Wimbolds Trafford, Dunham-on-the-Hill,

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Hapsford, Elton, Ince, Stanlow, Great Stanney, Little Stanney, Stoke, Capenhurst, Shotwick, Woodbank, Great Saughall, Little Saughall, and Shotwick Park.

Population.—The population of Chester Rural District was 10,989 at the Census in 1901, and 10,824 in the corresponding area at the Census in 1891. The increase in the population during the decennium 1891-1901 was thus 165, that is 1.5 per cent. The increase in the population of this Rural District between the Census in 1891 and the Census in 1901 would have been much greater but for the exodus of 1,137 persons enumerated at Elton, Ince, Stanlow, and Great Stanney, who at the time of the Census in 1891, were engaged in the construction of the Manchester Ship Canal.

The Census population as above is inclusive of 1,112 persons enumerated in the County Asylum, situated in the Parish of Upton-by-Chester, and 32 persons enumerated in Tarvin Union Workhouse, situated in the Parish of Great Boughton. Excluding the populations of these two Institutions, the population of the Rural District at the Census in 1901 was 9,845. It is estimated that in the middle of the year 1909 this population was 10,814, excluding the population in the two Institutions, or 11,958, including the Asylum and Workhouse.

Births, Deaths, &c.—The births registered during the year number 264. The birth-rate is 22.0 per 1,000 persons living in the district.

In 1909, the number of deaths registered (excluding 133 not belonging to the district, and including the deaths of two residents which occurred elsewhere), was 162. The death-rate is 13.5.

Infectious Disease.—There were in all 209 cases of infectious disease notified, viz: 71 cases of diphtheria, 134 cases of scarlet fever, and four cases of erysipelas. Fifteen of the cases of diphtheria, and 19 of the cases of scarlet fever were removed to the Isolation Hospital. The remainder of the cases were isolated at home.

Isolation Hospital Accommodation.—This is provided by the Joint Hospital Board. The hospital is situated at Sealand. Patients are received from Chester, Tarvin, and Malpas Rural Districts, and from Hoole and Tarporley Urban Districts.

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Action taken to prevent spread of Infection.—All the houses where cases of infectious disease occurred were visited, disinfectants supplied as required, and measures taken to prevent the attendance at school of pupils from houses in which cases have arisen; insanitary conditions, when discovered, were removed, and cases which could not be isolated at home, were promptly sent to hospital.

Inspection.—The Medical Officer of Health has visited the district from time to time, and besides investigating cases of infectious disease, has made general and special inspections. He has advised his Authority on many matters of detail in connection with these inspections.

Water-supply.—Part of the district is supplied from the Chester Waterworks, part from Wirral Waterworks, and part from Wrexham Waterworks, while other parts have good well water. Elsewhere the water is unsuitable or deficient in quantity. Christleton, Newton and Upton are supplied from the Chester Waterworks. The extension of the Chester Water Mains to Great Boughton has been accomplished by private enterprise. Great Saughall, Capenhurst, and part of Mollington are now supplied from Wirral Waterworks. Dodleston, Eaton and neighbourhood are supplied from the Wrexham Waterworks.

The district is traversed by a large conduit taking water from Vyrnwy to Wallasey, and a few houses in the district have been supplied therefrom.

Sewerage.—The sewerage of Bache, Newton-by-Chester and Upton-by-Chester, is now practically completed. Great Boughton will be dealt with when the sewerage of the Asylum is finished.

Refuse Removal.—The Council contract for the removal of ashpit refuse in the township of Newton. Metallic receptacles, where in use, are emptied weekly or fortnightly, as preferred by the householder.

Inspector's Report.—The Inspector, Mr. Owen, states that 31 complaints of nuisances were received during the year and investigated. Of these 27 resulted in notices, verbal or otherwise. There were 170 houses inspected and disinfected, and the drains of 29 houses were repaired. Nine privies were repaired and six were converted into water-closets. There were

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also 34 complaints with reference to ashpits, and these were attended to.

At Great Saughall a drain has been laid connecting various house-drains with the main sewer.

At Little Stanney and Stoke additional drainage is being laid.

At Dodleston new drainage is being laid which will have an outfall near Balderston Station.

At Christleton and Great Boughton owners of houses should be pressed to connect to new sewer without delay.

Dairies, Cowsheds, and Milkshops.—There are registered 145 dairies, two cowsheds and three milkshops. These have been visited and inspected periodically in 1909. On two occasions only were notices served. What was required was done.

Factory and Workshops Act.—Under the provisions of this Act the Inspector has from time to time inspected the premises of three brickmakers, six bakers, four builders, three blacksmiths, and three dressmakers. The premises were found in order.

New Houses.—The number of new houses completed in 1909 was 51.

Bye-laws.—The model Bye-laws of the Local Government Board with respect to new buildings are in force throughout the district.

CONGLETON

Rural District.

Medical Officer of Health—DR. C. H. WENTWORTH BENNETT.
Population at Census, 1901—12,220. (Census Report, 1901).

Population estimated to middle of 1909—12,216.

Area in acres—40,152. (Census Report, 1901).

Birth-rate per 1,000 living—26.8.

Death-rate per 1,000 living—13.4

Death-rate from seven principal Zymotic Diseases—1.06.

Deaths under one year per 1,000 births—64.

This district for registration purposes has been divided into three sub-districts. They are as follows :—

- 1.—Church Hulme, having an area of 14,910 acres, includes Goostrey-cum-Barnshaw, Blackden, Twemlow, Cranage, Leese, Cotton, Church Hulme, Swetenham, Kermincham, Brereton-cum-Smethwick, and Davenport.
- 2.—Congleton, having an area of 7,885 acres, includes Somerford, Somerford Booths, Hulme Walfield, Newbold Astbury, and Moreton-cum-Alcumlow.
- 3.—Sandbach, having an area of 17,357 acres, includes Smallwood, Odd Rode, Church Lawton, Hassall, Betchton, Wheelock, Arclid, Bradwall, Tetton, Moston, and Elton.

The Birth-rates for the District are :—Congleton, 22.5 ; Church Hulme, 22.9 ; Sandbach, 28.8

The Death-rates for the District are :—Congleton, 14.4 ; Church Hulme, 12.4 ; Sandbach, 11.8.

Infant Mortality.—Twenty-one children have died in the District under the age of one year, which works out at a death-rate of 64 per 1,000 births ; it was 71.9 last year.

Zymotic Disease.—Thirteen persons have died from Zymotic Disease :—Three from whooping-cough, two in the Sandbach District, one in the Church Hulme District. Three from

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diphtheria, two in Church Hulme District, one in Sandbach District. Five from measles, four in Sandbach District, one in Church Hulme District. Two from diarrhœa, both in the Sandbach District.

Scarlatina.—Forty-five cases were notified in the District ; 38 in the Sandbach District, and seven in the Church Hulme District. In February, six cases were notified at Scholar Green, and the children were attending Scholar Green Schools ; these Schools were closed and the epidemic subsided.

The next cases were at Elton in May and June ; the children were attending Warmingham Schools.

The next series of cases broke out in September in children attending Elworth Schools. The Medical Officer examined the Scholars at the School and found two or three children suffering from scarlatina in the peeling stage, these children were speedily excluded, and the other scholars were carefully examined from day to day, and any suspicious cases were promptly sent home.

Several cases from Elworth were removed to the Isolation Hospital.

At Cranage, five cases were reported in September.

Diphtheria.—Twenty-three cases were notified, 11 in the Sandbach District, nine in the Holmes Chapel District, and three in the Congleton District.

In January, two cases occurred in Holmes Chapel, in February, four cases at Holmes Chapel and Cranage ; at Scholar Green, three cases occurred in February and one in August, the other cases were distributed in the district.

Typhoid Fever.—There were two cases at Holmes Chapel ; this complaint is most difficult to trace since it is now believed that typhoid may be passed on from a person who has had the complaint 10 or 20 years ago.

Every precaution is taken in dealing with this complaint, the people looking after the patient are instructed in the best method of disinfection, and the dejecta are treated with Sanitas and buried in quicklime.

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Disinfection.—Every infectious case is given disinfectants and written instructions how to apply them. In scarlatina, the Medical Officer of Health recommends the patient to be rubbed with eucalyptus oil after each bath.

The Inspector fumigates every house that has been notified to contain an infectious case with formalin vapour.

Puerperal Fever.—No cases occurred in the district.

Measles.—Very prevalent at Hassall in January and February, and at Swettenham in April; there were five deaths from this complaint.

Anthrax.—No case in any human being, but a pig died at Moreton, another at Somerford Booths, also a cow at Somerford Booths at another farm, and a cow at Goostrey.

The carcases were cremated by the Police, and the shippons yard, etc., were thoroughly cleansed with lime and carbolic acid under my personal supervision and that of the Inspector.

School Closure.—Closure of the undermentioned has been advised :—

Scholar Green for scarlatina and diphtheria in March.

Holmes Chapel for whooping-cough in February.

Cranage " " "

Leese " " "

Hassall for Measles in January.

Swettenham for Measles in April.

Lawton for Measles in December.

Before opening the Schools the Inspector disinfects them and has them thoroughly cleaned.

Water-supply.—This year the Council have added greatly to the health and benefit of the district, by providing a good water supply to the parish of Odd Rode; Rode Heath and Thurlwood were badly in need of a good supply, and the residents there are very much benefited. The water is very good in quality and there is plenty of it.

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Mow Cop is also receiving the attention of the Council, and that district will, I hope, soon have a better supply. Holmes Chapel will shortly be supplied with water.

Sewage.—The Irrigation grounds at Mow Cop and Mount Pleasant are very satisfactory.

Holmes Chapel: there have been fewer causes of complaint from this source owing to the tanks being looked after better. The effluent is good.

Thurlwood wants sewerage and should be attended to. Since water has been supplied there will be more sewage than before.

Isolation Hospital.—A very complete hospital has been opened at West Heath, Congleton, for the use of the combined Districts of Congleton, Biddulph, Sandbach, Alsager, and Congleton Rural. It is a very up-to-date institution, fitted with every convenience and comfort necessary, and so far all the cases have done well and the parents have expressed their gratification at the care and attention bestowed on the children.

Nine cases have been removed from this District. The usual practice carried out as regards removal of infectious cases is this—removal is insisted on where any business is being carried on or where inmates are employed in any business likely to cause a spread of infectious disease or where there is insufficient accommodation for proper isolation. Every case of infectious disease has not been sent because very soon the hospital would be filled from this District alone, in fact it was full towards the end of the year.

Isolation can usually be carried out in most houses very efficiently, especially if full printed instructions are given the parents and the cases are inspected regularly to see if the instructions are being carried out.

Small-pox Hospital.—This hospital has not been used but has been kept in readiness and has always been found very clean when inspected.

Cowsheds and Dairies.—Eighty-two milk sellers are now on the register. These have been inspected throughout the District and several improvements have been made in some of the Shippens visited.

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Factory and Workshops.—These have been visited and inspected throughout the District. Particular attention is paid to sanitary arrangements and ventilation.

Prevention of Tuberculosis.—The Council have made arrangements with Professor Delépine to examine sputum from persons suspected of phthisis free of cost to the medical men who desire it. When a person dies of phthisis the Inspector visits the house and disinfects.

Lodging-houses.—These have been kept clean and in good order, no cases of overcrowding.

Bakehouses.—These have been found satisfactory and clean. There are no underground bakehouses in the District.

Slaughter-houses.—These have been regularly visited and inspected both by the Inspector and Medical Officer. They have been found clean and well drained, no meat has been found diseased and exposed for sale for human consumption.

Canal Boats Act.—Sixty-one boats have been inspected this year, there were four infringements of the Act—one overcrowding, two wanted painting, and one not marked. Notices were sent to the owners and occupiers and the infringements were remedied, no legal proceedings were necessary. There have been no cases of infectious disease notified on the boats.

Inspector's Report.—The Inspector reports that he has regularly inspected the whole of the District throughout the year, read all the water metres quarterly, and can certify to there being a good supply. He has reported 222 cases to the Council, made 3,486 visits in the District, received and answered 531 letters, attended to 195 cases and nuisances, visited every case of infectious disease immediately on receipt of notice, and attended each case as often as requisite, afterwards supplying them with disinfectants, and on complete recovery of the patient disinfected the house with formalin gas.

The Inspector reports that the contractors for the removal of excreta are doing their work satisfactorily, but there have been complaints made to him of nightsoil carts from other Districts passing through Church Lawton in the middle of the day, thereby causing a nuisance; he is endeavouring to stop this.

DISLEY

Rural District.

Medical Officer of Health—DR. C. J. BENNET.

Population at Census, 1901—2,827.

Population estimated to middle of 1909—3,407.

Area in acres—2,466. (Census Report, 1901).

Birth-rate per 1,000 living—16.4.

Death-rate per 1,000 living—10.2.

Death-rate from seven principal Zymotic Diseases—0.58.

Deaths under one year per 1,000 births—73.

Population, Births and Deaths.—At the Census of 1901 the population was 2,827, and it is estimated that it has now increased to 3,407—a gain of 580, or about 19.5 per cent. There are 756 inhabited houses in the district.

There were 35 deaths during the year, giving a rate of 10.2 per 1,000 of the estimated population, and 55 births, giving a rate of 16.4 per 1,000; this may be considered satisfactory, being an increase of births over deaths of 20.

Infectious Disease.—There were 29 cases notified, namely, 23 of scarlet fever, 2 of diphtheria, 1 of typhoid fever, and 3 of erysipelas.

Water-supply.—The water-supply has been all that could be desired, not owing to the excessive rains that prevailed during the year, but from the abundance which the springs on Kinder constantly give off, so that there is no fear of shortage for many years to come, unless the demand for water is very much increased beyond what it is at present.

It is pointed out that at Furness Vale there are several houses that have no water supply on their slopstones though the water main is laid within a few yards of the houses. It is understood that the house pipes are also laid and have been for several months, but are not yet connected with the mains.

The families are compelled to use very hard water, which is not wholesome, though many people say they prefer it to the soft water.

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Furness Vale is very much in need of an efficient sewerage system, and there is every prospect of it being provided within the next twelve or eighteen months.

Dairies and Cowsheds.—Improvements are being made with respect to dairies and cowsheds, and the cowsheds, and their surroundings, are more sanitary than formerly.

MACCLESFIELD**Rural District.**

Medical Officer of Health—DR. C. C. RUSHTON.

Population at Census, 1901—15,755.

Population estimated to middle of 1909—16,798.

Area in acres—79,588.

Birth-rate per 1,000 living—19.46.

Death-rate per 1,000 living—11.13.

Death-rate from seven principal Zymotic Diseases—0.17.

Deaths under one year per 1,000 births—58.

This Rural District has for registration purposes been sub-divided as follows:—

- 1.—Alderley, having an area of 13,679 acres. It includes Birtles, Capesthorpe, Lower Withington, Old Withington, Chelford, Snelson, Nether Alderley, Over Alderley, Great Warford, and part of Chorley.
- 2.—Bollington, having an area of 7,107 acres. It includes Tytherington, Pott Shrigley, Lyme Handley, and part of Hurdsfield.
- 3.—Gawsworth, having an area of 17,983 acres. It includes Gawsworth, Bosley, North Rode, Marton, Siddington, Henbury-with-Pexall, and Eaton-by-Congleton.
- 4.—Prestbury, having an area of 13,666 acres. It includes Prestbury, Poynton-with-Worth, Woodford, Newton, Adlington, Butley, Mottram St. Andrew, Fallibroome, and Upton.

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5.—Rainow, having an area of 14,274 acres. It includes Taxal, Kettleshulme, Rainow, and Macclesfield Forest.

6.—Sutton, having an area of 12,953 acres. It includes Wildboardlough, Wincle, and part of Sutton.

The sub-divisions of Alderley, Bollington, Gawsorth and Prestbury are, speaking generally, devoted to agriculture and dairy work, while Rainow and Sutton show stone quarries and steep hill land used for grazing purposes.

Births, Deaths, &c.—During the year there have been registered 327 births, 180 males and 147 females, including 13 illegitimate children, the natural increase for the year being 138.

The birth-rate is 19.46 per 1,000 per annum, compared with 20.86 of the previous year.

During the year there have been registered 189 deaths, 94 males and 95 females, including the deaths of residents belonging to the district who had died in institutions outside the district.

The death-rate is 11.13 per 1,000 per annum, compared with 11.87 of the previous year.

Infant Mortality.—The rate of infant mortality measured by the proportion of deaths of children under one year of age per 1,000 born is 58.1, against 83.33 of last year. Of the total 19 deaths of children under 1 year of age, against 29 of the previous year, it is noticeable that only 5 were due to premature birth, against 10 of the previous year. In 1907 also, premature birth accounted for the death of 10 infants out of a total of 29. Four deaths were due to congenital defects, three to pneumonia, and one uncertified to convulsions; this comparatively low death-rate is undoubtedly due to breeding from healthy stock, to rearing in a healthy atmosphere, to feeding on the natural food of the infant; it is to be hoped that the pernicious system of bringing up infants on artificial food will gain no hold in this Rural District.

The rate of mortality of males of all ages per 1,000 of population, 5.60, compared with 5.15 of last year, and of females is 5.66, compared with 6.71 of the previous year.

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The death-rate from zymotic disease per 1,000 of the population is .17, against .29 of last year.

There have occurred 9 fewer deaths than in 1908, and 21 fewer births.

House Accommodation.—As regards house accommodation, this is generally speaking good; the majority of the houses are of the farmhouse variety, though Poynton is tending to assume an urban character, the surroundings generally are clean and each inhabitant has an average of 5 acres of air space round his dwelling.

In some cases overcrowding has undoubtedly existed, leading to the necessity for some members of the family living elsewhere, and in one case to the enlargement of the existing house.

Eight houses have been dealt with under Housing of the Working Classes Act.

In some parts of the district it is difficult to find suitable houses.

Over the erection of new houses a keen supervision is kept. During the year, plans have been deposited for 42 new houses.

Sewerage and Drainage.—The greater part of this district being scantily populated, possesses no deep sewerage system. Earth closets are in general use and their contents returned direct to the land; this system if properly carried out has many advantages.

As regards the semi-urban township of Poynton, all houses in the populous part are now connected with the sewers. During the year 1909, 480 yards of 9-inch sewers were laid in Bramhall Road, Woodford, discharging into the Bramhall sewers by agreement. A provisional agreement has been entered into with the Macclesfield Corporation to receive the sewage of five townships.

Taxal and the neighbouring areas have been formed into a Joint Sewage District.

Water-supply.—The greater part of the district is supplied by wells and springs. Owing to the scattered populations it

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is often impossible to provide a public supply at a reasonable cost. Considerable progress is, however, being made in this direction, and water works of a more or less public character are now supplying portions of 11 townships.

Milk.—Generally speaking the character of the milk produced in this district is good, the condition of the dairies is excellent, and the cowsheds are kept much cleaner than in the past; many of the latter of very old construction are small, but it must be remembered that if abundant air space were supplied some method of furnishing artificial heat to the cowshed would be a necessity in the winter time.

When the milk is to be sent away it is rapidly strained and cooled and passed directly into the milk cans provided for transport. There is no doubt that it would be a great advantage if the milk could be conveyed in locked cans.

Some contamination at the source undoubtedly occurs, but this is negligible compared with that introduced by the consumer.

The average household even in comfortable circumstances takes no care about the milk not even to receive it in a clean vessel; among the poorer classes the unwashed beer jug is in almost universal use.

As regards the question of tuberculous milk it is greatly to be regretted that the sensational Press attributed to Professor Delépine statements regarding the tuberculous quality of the milk of this Rural District. It was perfectly obvious that such an accurate observer as Professor Delépine would not indulge in language of such a sweeping character as that attributed to him—on enquiry by the Council this was found to be the case.

In reference to the above, what Professor Delépine did report on the Milk-supply of Manchester to which this district contributes is as follows:—

“Not only has the amount of tuberculous milk been reduced in ten years to nearly one-third of what it was originally, but the lessons observed in inoculated animals have of recent years become generally slight when compared with those produced ten years ago. This shows that advanced cases of tuberculosis of the udder have been removed, and that the cases that remain are comparatively slight.

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The danger of infection has, therefore, been diminished, both owing to the reduction in the quantity of tuberculous milk and also because the milk has become less virulent."

As the result of clinical observation, I am quite certain that an infinitely greater number of children suffer from lack of an abundant supply of milk than are killed owing to this essential food stuff being contaminated by tuberculosis or other infective material.

Under its own special powers the Manchester Corporation sends into this district a Veterinary Surgeon to examine the cattle on farms from which milk is sent to Manchester. This proceeding results occasionally in the discovery of an animal suffering from tuberculous disease of the udder. In such a case the animal is at once isolated and afterwards slaughtered in the presence of this same Veterinary Surgeon.

Dr. Rushton has not met with any opposition to this course being adopted, and does not think that any farmer is desirous of keeping in his herd an animal that may perhaps infect others.

Meat.—There are 12 slaughter-houses in this district; these have been found clean and in good order; in no case has a carcase been found to be tuberculous.

The slaughter-houses are visited occasionally at the time of slaughtering; there is no Inspector with a special certificate in meat inspection, but the Inspector is certified by the Sanitary Institute as Inspector of Nuisances.

Very little meat is eaten in this Rural District, and the majority of what is consumed is slaughtered in the towns.

There are but two bake-houses in the whole of this district; the majority of the inhabitants, with the marked exception of those of Poynton, bake their own bread.

Schools.—During the year it has been thought desirable to alter the arrangements for closing the Schools in the case of an outbreak of infectious disease. The method which has been in use in this district for many years and which has worked perfectly, has been for the Medical Officer of Health to give

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to the Head Teacher a form "requesting" the Managers to close the School. This "request" has never been made in vain. It is somewhat difficult to understand why an Education Committee should wish for the substitution of the word "command" in place of the word "request;" this, however, has occurred.

The method now adopted is for the Medical Officer of Health to advise the closure of the School; an order for closure is then to be signed by two members of the Rural District Council; in such a widely scattered district it is no easy matter to obtain these necessary signatures quickly. The result is that to close a School takes one or two days instead of one minute as under the old system. This cumbrous method has taken from the Medical Officer of Health a very valuable weapon against the beginning of an epidemic. In this widely scattered district the children collect solely at School or Church; where a child in an infective condition has been attending School it has often been of great advantage to immediately close the School for a week and thus weed out other infected children. Under the new system as the closure cannot be promptly applied its efficacy at the beginning of an epidemic is limited very largely if not destroyed. The value of such early closure in this Rural District has been repeatedly attested by the late Medical Officer of Health.

Dr. Rushton is further of opinion that regular attendance during the worst months of winter should not be required from children attending the Schools at Wincle, Wildboardclough, and Macclesfield Forest. Very few of the children have a road the whole way, and a great many of them have no road but a sheep track. When it is remembered that these children have often to force their way through snow for 2 or 3 miles in such a country, it is very wonderful that greater harm does not accrue to them.

Scarlet Fever.—During the year there have been notified 105 cases of infectious disease compared with 92 of the preceding year. Of these 84 were scarlet fever against 62 of last year. It is noticeable that several children contracted the disease while visiting popular health resorts; it is to be regretted that a series of nine cases was largely due to parental carelessness. The registration district of Prestbury, which includes the semi-urban district of Poynton, supplies the greater number of cases as is to be expected, but every locality shows an advance on the figures of the previous year.

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Of the above 84 cases, two were fatal, both arising in the Prestbury division; one was a case of scarlatina anginosa, and the other occurred in a child of markedly retarded development, death happening in the latter case in the isolation hospital.

Diphtheria.—It is gratifying to be able to report a striking decrease in the number of cases of diphtheria, only six cases occurring, compared with 24 of the previous year; of these two cases developed in one house and one case in a house where scarlet fever was already existing; there were no deaths from this disease although a child of twelve months old was attacked.

Enteric Fever.—During the year 4 cases of enteric fever have occurred all in one house; this disease was imported into this district by a groom who infected his brother; these two cases were promptly removed to hospital; five weeks later another brother two years of age was notified as suffering from the disease, the parents would not permit removal to hospital; one month later the mother was notified as suffering from the disease and was removed to hospital.

It is very greatly to be regretted that it was impossible to secure an examination of the blood of these cases. Efforts were made by the medical man attending the case and by the Medical Officer of Health, but to no purpose. Had this course been adopted at the beginning of the outbreak it is not improbable that the considerable expense incurred by the Council in dealing with this outbreak would have been greatly reduced.

Puerperal Fever.—It is to be regretted that one case of puerperal fever occurred, the district having been free from this preventible disease for the last three years. This case was due to a midwife not resident in the district, and in whose practice other cases occurred. There is no doubt but that puerperal fever should be unknown in this district, as indeed it practically is. In the case mentioned recovery took place.

Small-pox.—There has been no case of small-pox, and hence the small-pox hospital at Greenway has not been required.

General.—I have no doubt that many cases of infectious disease escape notification, especially the mild types of scarlet

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fever; where a child is not very ill a parent hesitates to summon a doctor several miles for what after all may be nothing. In some parts of the district a real difficulty exists in the obtaining of medical aid even at the extremities of life owing to the distance from any town and the hilly nature of the country.

On receipt of a notification of infectious disease the premises have been visited, instructions given as to isolation and disinfectants freely supplied; at the conclusion of the case disinfection has been carried out as recommended by the County Medical Officer of Health.

Fourteen beds in the Borough Isolation Hospital are now available for the reception of cases occurring in this Rural District.

During the year 49 cases out of the total of 105 have been removed, almost all of them being cases of scarlet fever. In the year 1908 the number of cases removed were 24 out of a total of 90. In the year 1907 only two cases out of a total of 92, though for part of the time only four beds were available. Thus a greater inclination to make use of the benefits of an isolation hospital has shown itself among the people. This change is due to several causes which need not be particularised, but I am of the opinion that the publication and circulation amongst the parents of School children of an illustrated booklet describing the hospital and the means of conveyance thereto, and announcing that no charge is made for admission, has been of great service.

Phthisis.—There is no system of notification of cases of pulmonary tuberculosis, compulsory or voluntary, in operation in this district except as regards the “poor person.” This has resulted in two cases being reported to the Medical Officer of Health, one of which was merely staying with relatives for a few days.

It is noticeable that only seven deaths out of a total of 189 occurring in this district during 1909 were caused by phthisis, which was responsible for only six deaths out of 198 during 1908. This low mortality bears witness to the generally healthy conditions under which the inhabitants exist. There is no special hospital accommodation for this disease, and it would not appear to be urgently required. In some cases disinfection of the premises has been carried out.

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Factory and Workshops Act.—During the years, 20 inspections of the Factories and Workshops have been made; in only one case has it been necessary to interfere and the fault was promptly remedied.

Section 22 of the Public Health Acts Amendment Act, 1890, is in force in parts of the district.

As regards Home work, twelve inspections of outworkers premises have been made; in every case the conditions under which the work was carried out were excellent.

Report of Surveyor and Inspector.—The following are extracts of sanitary interest from this Report:—

Slaughter-houses.—The slaughter-houses were visited at intervals, and were found clean and in good order.

Pollution of Streams.—The effluent outfalls from Sewage Disposal Works, where they discharge into streams in your district, were visited at intervals. There was again less pollution of the streams in your district from these sources than has been the case in years past. Serious pollution was found in one instance, owing to the sludging of the ditches on the sewage disposal works of an adjoining Urban District.

Water-supply.—Thirty-three houses were provided with new or improved water-supplies.

Ten samples of drinking water were sent for analysis, seven of which were reported unfit for domestic use. Steps were at once taken to prevent use of these waters for domestic purposes.

Dairies, &c.—Seven persons were registered under the Dairies, Cowsheds and Milkshops Order, 1885. 403 persons are now registered. Most of the premises were visited, and were usually found in satisfactory order with regard to cleanliness.

New Buildings.—Thirty-two sets of plans were submitted and approved under the Bye-laws with respect to new buildings and to new streets. The buildings proposed comprised 42

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houses, special Country School Buildings for 122 Town Children and Administrative Staff, a Chapel, and a number of alterations and additions to existing buildings. These buildings and other works were visited frequently during construction to see that the Bye-laws were being complied with. Legal proceedings were ordered in two instances for contraventions of the Bye-laws with respect to new buildings. It was not necessary, however, to commence these proceedings, as the irregularities were promptly amended when this alternative was put to the delinquents.

Canal Boats.—Eleven canal boats were inspected under the Canal Boats Acts, 1877 and 1884. The boats were registered for 34 adults, and they carried 21 men, 2 women and no children, a percentage of 91.3, 8.7, and nil respectively, as compared with 92.3, 2.6, and 5.1 in the previous year. The condition of the boats both structurally and as regards cleanliness was generally found to be satisfactory. No infringement of the Acts or Regulations was met with, nor was any case of infectious disease found on any of the boats.

Sewerage and Sewage Disposal.—Fourteen houses were newly drained into the sewers at Poynton. 552 houses are now so drained. All the samples of the final effluent, which were collected and analysed by the staff of the Mersey and Irwell Joint Committee, were of a satisfactory degree of purity. The samples which were collected and analysed on your own behalf were also all satisfactory.

The proposal to constitute a Joint Sewerage District combining the township of Taxal in your district with the Urban District of Ycardsley-cum-Whaley and parts of the Rural Districts of Chapel-en-le-Frith and Disley has been effected under the name of the "Whaley Bridge Joint Sewerage District." The first meeting of the Joint Board, the time and place of holding which is to be fixed by the Local Government Board, has not yet been held.

A provisional agreement was made with the Macclesfield Corporation under which the Corporation undertake to receive into their outfall sewers sewage from the townships of Upton, Prestbury, Butley, Tytherington, and Hurdsfield. This step has been repeatedly urged by the Mersey and Irwell Joint Committee. The Agreement is without effect until it has been approved by the Local Government Board. On the 4th May

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last, the Mersey and Irwell Joint Committee gave you six months within which to divert the sewage of Prestbury and Butley from the river. On the 4th of June last, application was made to the Local Government Board for their approval to the above-mentioned agreement, and for authority to borrow money wherewith to construct the sewers required in Prestbury and Butley. The Local Government Board held their local enquiry on the 6th of October. Their approval has not yet been received. (January, 1910).

480 Yards of 9-inch sewer were laid in Bramhall Road, Woodford, to meet the requirements of the new houses which are being built in that neighbourhood. The costs of constructing this sewer have been defrayed by the land owner, Colonel Bromley-Davenport.

The need of an efficient sewer in the township of Eaton to receive the drainage of the 29 houses at Eaton Bank was manifested by sickness, which was attributed by the medical attendant to the unsatisfactory drainage conditions. These houses are at the extreme end of your district and contiguous to the Buglawton Urban District, whence they are supplied with water. The Urban District Council have recently re-sewered their district. Inquiries have been made of them as to whether they will receive this sewage from Eaton Bank into their sewers, but a definite reply has not yet been received.

Waterworks.—Ten additional houses were supplied from the Council's Water undertakings. The numbers of houses now so supplied are as follows:—

| | | | |
|--------------|-----|-----|-----|
| Upton | ... | ... | 41 |
| Prestbury | ... | ... | 50 |
| Butley | .. | ... | 64 |
| Tytherington | ... | .. | 23 |
| Taxal | ... | ... | 100 |

In Poynton 15 additional houses were supplied from Lord Vernon's water mains, making a total of 551.

In Chorley 43 houses, and in Great Warford 26 houses, a Convalescent Home for a Manchester Hospital, and a number of Schools are supplied from the Stockport Corporation's water mains.

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In Eaton 29 houses are supplied from the waterworks of the adjoining Urban District of Buglawton.

In Hurdsfield 80 houses are supplied from the waterworks owned by Colonel Brocklehurst.

In Rainow 54 houses are supplied from waterworks owned by Mr. Allen.

In Sutton 102 houses are supplied from waterworks owned by Mr. Whiston.

Isolation Hospital.—As there was not any case of small-pox, the Hospital for the isolation of persons suffering from that disease was not in use.

Under the agreement with the Macclesfield Corporation 42 persons ill of scarlet fever, 5 of diphtheria, and 3 of enteric, were removed to the Borough Isolation Hospital.

One case of scarlet fever was removed to the Baguley Sanatorium.

MALPAS

Rural District.

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1901—4,488.

Population estimated to middle of 1909—4,380.

Area in acres—21,408.

Birth-rate per 1,000 living—23.9.

Death rate per 1,000 living—12.3.

Death-rate from seven principal Zymotic Diseases—0.25.

Deaths under one year per 1,000 births—66.

This Rural District includes the following townships (civil parishes):—Bickley, Hampton, Larkton, Duckington, Edge, Overton, Malpas, Chorlton, Cuddington, Oldcastle, Newton-by-Malpas, Stockton, Wyclough, Wigland, Agden, Chidlow, Bradley, Macefen, Tushingham-with-Grindley, Wirswall, Marbury-with-Quoisley, Norbury, and Threapwood.

Malpas Rural District.

Owing to the death of Dr. Kenyon, on March 6th, 1910, this Annual Report has been prepared by Dr. Vacher, late Medical Officer of Health for the County.

Population.—The population of Malpas Rural District was 4,488 in 1901, and 4,624 in 1891. The decrease in the population during the decennium 1891-1901 was therefore 136, that is nearly 3 per cent. The estimate of the population made for the middle of the year 1909 was thus 4,380.

Births, Deaths, &c.—In 1909 the number of births registered in the district was 105, and the number of deaths registered in the district was 54.

The birth-rate is 23.9 per 1,000 living, and the death-rate is 12.3 per 1,000 living.

Of the infants born 49 were boys and 56 were girls. Of those who died 21 were males and 33 were females.

Seven of those who died were infants who had not completed their first year, and 12 were persons 65 years old and upwards.

The only death from any of the seven principal zymotic diseases was one from whooping-cough. Among the deaths were 13 from cancer, eight from heart disease, five from phthisis, and three from pneumonia. There was one death from enteritis, one from bronchitis, and one from tuberculous disease other than phthisis only one death was due to accident.

Infectious Disease.—There were six cases of infectious disease notified, viz.:—five diphtheria and one scarlet fever. These cases were isolated as far as practicable at home. The premises were disinfected in each case and the children belonging to infected families were not allowed to attend school.

Isolation Hospital Accommodation.—In order to provide hospital accommodation for cases of infectious disease for the district and the neighbouring districts of Tarvin and Tarporley a Joint Hospital District was formed. During 1906 the Board of this Hospital District obtained satisfactory accommodation for cases other than small-pox by an agreement with the Managers of the Chester Isolation Hospital. Malpas has arranged with other parts of the Whitchurch Union to secure accommodation for the isolation and treatment of small-pox cases.

Malpas Rural District.

Inspection.—The Medical Officer of Health has from time to time inspected the district and given advice on various matters of detail. Special visits of inspection were made in June and November.

Water-supply.—The supply to the town of Malpas and to the township of Bickley is from the Liverpool mains, but it is inconvenient being turned off at night. Elsewhere the supply is less satisfactory, being from wells liable to pollution. An improvement was effected during 1903 in Marbury by the Lord of the Manor. Water was brought from some distance for the supply of the school and adjacent houses. This is supplementary to the supply brought to the village in 1902.

Refuse Removal.—Most of the houses in the district are provided with ashpit privies. These pits are emptied from time to time, and the contents disposed of on land.

Malpas Outfall Works.—In the town of Malpas are a number of water-closets. The town is sewered to three outfalls, and at two of them the sewage is treated in bacteria beds arranged in two tiers. More recently works have been constructed for dealing in a similar way with the sewage at the third outfall.

Inspector's Report.—The Inspector, Mr. T. T. Chubb, gives attention to all complaints, and endeavours to obtain the abatement of all nuisances reported or discovered. He also sees to the cleansing of dirty premises. On cases of infectious disease being notified he visits the house, steps are taken to correct any defects noticed, and disinfection is carried out.

Workshops.—There are 24 workshops in the district. Of them, 72 inspections have been made during 1909. All were found in order.

Common Lodging-houses.—The three common lodging-houses in the district have been inspected.

Dairies, &c., are visited and inspected from time to time. Model regulations have been in force since 1st March, 1900. There are 34 dairies in the district.

Slaughter-houses are inspected from time to time. There are six in all, but they do not appear to be licensed or registered.

NANTWICH

Rural District.

Medical Officer of Health—Dr. R. T. TURNER.

Population at census, 1891—23,196.

Estimated population middle of 1909—24,320.

Area in acres—98,458.

Birth-rate per 1,000 living—23.5.

Death-rate per 1,000 living—13.3.

Death-rate from principal zymotic diseases—1.07.

Deaths under one year per 1,000 births—89.

Area and Population.—The district is situated in the south-east of Cheshire, and adjoins in the south the county of Salop and in the east the county of Stafford. It is part of the alluvial plain of Cheshire and surrounds the Borough of Crewe and the Urban District of Nantwich, both of which districts are situated near its centre. The occupation of the vast majority of its residents is dairy farming. In that part of the district contiguous to the Borough of Crewe and the Urban District of Nantwich of late years there has grown up a considerable population of a non-agricultural character, which population chiefly consists of railway employes and of tradespeople and their employes whose daily occupation is chiefly found in the towns of Nantwich and Crewe. The wives and daughters of the poorer members of this class are, to a slight extent, employed as workers in the clothing factories of Nantwich, Crewe, and Willaston, and a considerable number of them are employed as out-workers in this class of business. Of the four registration sub-districts into which the district has been divided, the Crewe sub-district contains practically all the industrial population, though even in this sub-district the preponderant element of the population is agricultural, whilst the sub-districts of Nantwich, Bunbury, and Wrenbury are practically exclusively agricultural in character. Agriculture in this Rural District may be considered to be fairly prosperous considering the state of the country generally from an agricultural point of view, and the wages of agricultural labourers are probably above the average of agricultural England as a whole.

The district is largely drained by the River Weaver, which is a tributary of the Mersey, and which receives tributary streams from the counties of Stafford and Salop.

The London & North Western, the Great Western, and the North Staffordshire Railways run through the district, as also

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does the Shropshire Union Canal. A number of the employés of this Canal Company form a colony at a hamlet called Barbridge, situated in townships of Stoke and Wardle.

The Rural District has been divided into the following registration sub-districts :—

- 1.—Crewe, having an area of 31,145 acres and an estimated population of 12,108. It includes Bather-ton, Barthomley, Basford, Blakenhall, Bridgemere, Checkley-cum-Wrinehill, Chorlton, Crewe, Doddington, Haslington, Hatherton, Hough, Hunsterson, Lea, Rope, Stapeley, Walgherton, Warmingham, Weston, Willaston, and Wybunbury, and parts of Church Coppenhall, Shavington-cum-Gresty, and Wistaston.
- 2.—Nantwich, with an area of 21,300 acres and an estimated population of 3,468, includes Acton, Aston-juxta-Mondrum, Austerson, Baddington, Brindley, Burland, Cholmondeston, Coole Pilate, Edleston, Faddiley, Henhull, Hurleston, Leighton, Minshull Vernon, Poole, Stoke, Woolstanwood, and Worleston.
- 3.—Bunbury has an area of 20,979 acres and an estimated population of 4,122. It comprises the townships of Alpraham, Bickerton, Bulkeley, Bunbury, Calvey, Cholmondeley, Church Minshull, Egerton, Haughton, Peckforton, Ridley, Spurstow, Wardle, and Wettenhall.
- 4.—Wrenbury, which has an area of 25,034 acres and an estimated population of 4,622. It includes Audlem, Baddiley, Broomhall, Buerton, Chorley, Dodcott-cum-Wilkesley, Hankelow, Newhall, Sound, Woodcott, and Wrenbury-cum-Frith.

Birth-rates.—The birth-rates for the four sub-districts were respectively 26.0, 24.2, 20.1, and 21.5.

The birth-rate for the whole district was 23.5, which is lower than the average of the last ten years and lower than that of any single year of which there is any record.

There is a remarkable decline in the birth-rate of each sub-district.

Nantwich Rural District.

The illegitimate births numbered 51, an increase of eleven over last year. It is clear, therefore, that the remarkable decline in the total birth-rate is a decline in the fertility of married people.

Death-rates.—The death-rates for the four sub-districts were respectively 13.8, 15.2, 9.4, and 14.0.

The death-rate for the whole district was 1.5 higher than in 1908, and was higher than the average of the preceding ten years.

Infantile Mortality.—Fifty-two of the deaths registered were those of children under one year of age.

The deaths of infants under one year of age were in the proportion of 89 to each 1,000 births registered.

The Notification of Births Act is not in force in the district; nor have we at present the machinery in the district for making proper use of the information it would supply.

The inspection of “nursed-out infants” by the female Inspector under the Children Act is doing good in this district in which a considerable number of children (especially illegitimate ones) are put out to nurse.

Deaths from Zymotic Disease.—

- (a) MEASLES.—One death occurred during the year as the result of this disease.
- (b) SCARLET FEVER.—This disease caused two deaths during the year. Both of these occurred in the Isolation Hospital. The first occurred on August 5th and was that of a child aged two years, admitted from Willaston. The other was that of a child aged six years, from Church Copenhall, who died on December 2nd.
- (c) WHOOPING COUGH.—This disease caused the deaths of three young children all of whom were under five years of age.
- (d) DIPHTHERIA.—This disease caused three deaths, viz. :—That of a child aged eight years at Wettenhall on

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February 20th ; that of a child aged four years at the Isolation Hospital on June 10th, the child having been admitted the day before its death from Worleston ; and that of a child aged seven years at Calveley on December 29th.

- (e) **DIARRHŒA.**—This disease caused the deaths of two children and two old people, two occurring in the Crewe and two in the Bunbury sub-district.
- (f) **PUERPERAL FEVER.**—One death occurred from this disease.—It was that of a woman aged 41 years who died on September 10th, at Spurstow.
- (g) **ERYSIPELAS.**—One death in the Crewe sub-district was ascribed to this disease.
- (h) **INFLUENZA.**—No less than eleven deaths were certified as resulting from this disease and its sequelæ. By this disease a very important percentage ($3\frac{1}{2}\%$) of the total mortality of the district was caused. It is hard to devise a scheme for mitigating the incidence of the complaint, but its importance as a cause of death cannot be neglected.

Cancer.—This group of diseases caused the deaths of 18 persons during the year. It will be seen that 5.3 per cent. of the total deaths at all ages resulted from cancer and 7.5 per cent. of the deaths of persons over twenty-five years of age.

Phthisis.—This disease caused the deaths of 17 persons during the year. This is equivalent to a death-rate of 0.6 per 1,000 living.

The rates for the preceding nine years were 0.75, 0.6, 0.38, 0.3, 0.6, 0.8, 0.7, 0.3, and 0.5.

Notification of Pulmonary Tuberculosis.—Seventeen notifications of cases of phthisis occurring in persons in receipt of parish relief were received during the year. Of these thirteen were received from the Medical Officer of the Union Workhouse, two from District Medical Officers, and two from Relieving Officers of other Unions.

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The cases notified have been visited, instructions as to precautions given, and in one case (where a death occurred in a private house) careful disinfection was carried out.

The cases at the workhouse are all treated apart from persons not suffering from the disease.

The Order of the Local Government Board which calls for the notification of these cases is a great advance in the fight against consumption.

It is hoped that soon the disease may be made notifiable in every case whether the sufferer be a pauper or not. Voluntary notification is of very little use because it throws too great an onus upon the certifying practitioner, whose patients in many cases would resent notification unless it was a statutory duty thrown upon their doctor.

Other Tubercular Diseases.—Eight deaths were ascribed to tubercular disease other than pulmonary phthisis. The number for 1908 was two.

Inquests.—During the year twenty-six inquests were held with regard to the deaths of residents of the Rural District.

Infectious Disease.—During the year 165 cases of infectious disease were notified to the Medical Officer of Health. They were as follows :—

| | | | |
|-----------------|-----|-----|------------|
| Scarlet Fever | ... | ... | 109 cases, |
| Diphtheria | ... | ... | 48 „ |
| Puerperal Fever | ... | ... | 1 „ |
| Enteric Fever | ... | ... | 3 „ |
| Erysipelas | ... | ... | 4 „ |
| Total | | | 165 cases. |

(a) **Scarlet Fever.**—The Table which follows shows at a glance the incidence of this disease on the various Townships during the year under review.

The cases tabulated therein call for but little special mention, with the exception of the cases which occurred in the Townships

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of Willaston and Warmingham. The Willaston cases occurred in February, among the boarders at the Willaston College. It is difficult to account for them; but it appears probable that some pupil or member of the staff had brought back the infection after the Christmas vacation.

With the consent and co-operation of the Medical Officer of the School, Dr. Turner examined every pupil and every member of the teaching and domestic staff, but could find no sign of infection. He could not find any reason to believe that the milk supply was implicated.

The Warmingham cases were part of an outbreak which was at the time existing in the contiguous portion of the Congleton Rural District. The Warmingham School was closed for a few weeks on account of this outbreak.

Scarlet Fever Notifications, 1909.—

| | | | | |
|--------------------|-----|-----|-----|-----|
| Acton | ... | ... | ... | 4 |
| Alpraham | ... | ... | ... | 2 |
| Bunbury | ... | ... | ... | 5 |
| Burland | ... | ... | ... | 4 |
| Blakenhall | ... | ... | ... | 4 |
| Bickerton | ... | ... | .. | 1 |
| Barthomley | ... | ... | ... | 1 |
| Church Minshull | ... | ... | ... | 3 |
| Church Coppenhall | ... | ... | ... | 4 |
| Chorley | ... | ... | ... | 5 |
| Edleston | ... | ... | ... | 2 |
| Faddiley | ... | ... | ... | 5 |
| Haslington | ... | ... | ... | 9 |
| Hatherton | ... | .. | ... | 1 |
| Henhull | .. | ... | ... | 1 |
| Minshull Vernon... | ... | ... | ... | 1 |
| Leighton | ... | ... | ... | 1 |
| Poole | ... | ... | ... | 1 |
| Shavington | ... | ... | ... | 6 |
| Stapeley | ... | ... | ... | 2 |
| Willaston | ... | ... | ... | 31 |
| Wistaston | ... | ... | ... | 2 |
| Wettenhall | ... | ... | ... | 5 |
| Warmingham | .. | ... | ... | 9 |
| Total ... | | | | 109 |

Nantwich Rural District.

(b) **Diphtheria.**—The accompanying Table gives the number of cases occurring in each Township.

It will be seen from this Table that forty-light cases of the disease were reported.

The majority of the cases were sporadic in character and call for little comment. In two instances the outbreaks were of considerable interest.

The first was a small outbreak which occurred in January in two farm houses situated at Poole and Cholmondeston. In these cases it is practically certain that the children were infected at a Christmas party.

The second was an outbreak which occurred in August in the Township of Dodcott. On the night of August 24th Dr. Turner was informed by telephone of the outbreak of two cases of diphtheria in one house, and one case in each of two other houses in the Township. He enquired from his informant, who was the father of one of the affected persons, as to any possible connection between the cases and was only able to find one thing in common—the milk supply, which was in each case derived from the same farm. On August 25th he visited the cases and his suspicions of the milk supply became even stronger. He visited the farm and found that a little boy, who was visiting there, was suffering with sore throat, which on examination was very suspicious of a recovering case of diphtheria. He also examined the throat of the farm manager whose duty it was to put up the milk for the customers. In his case he found slight evidence also of sore-throat. Specimens were at once taken from their throats and sent to Manchester for examination. In the meantime Dr. Turner arranged for the isolation of the two suspected persons, and for the discontinuance of the sale of milk from the farm. As soon as the reports of the bacteriological examination (which showed that the cases were true diphtheria) were received he arranged for the removal of the little boy and the farm manager to the Isolation Hospital. On August 28th he received notifications of two fresh cases, one in one of the originally infected houses, and another in a fresh house, whose milk supply had been derived from the same source. This made four houses infected with diphtheria. As one of the last two cases was in the household of the National School-master, it became necessary to close the school for a short time. No further cases occurred after August 28th in the township until January of this year, when another case was reported.

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Dr. Turner's reasons for suspecting the milk supply were (1) the absence of any other connection between the cases, and (2) the fact that of five households supplied by the one farm four were within a few days invaded by diphtheria.

His suspicions were fully confirmed by examination of the throats at the farm and by the bacteriological examination.

It is noteworthy that the case which occurred in January, 1910, arose in the person of a young man who had come home for his Christmas holidays, and that this was the remaining one of the five households which had been supplied with the infected milk. It is possible that the bacillus of diphtheria had been introduced into the household in August, and, though it had caused no apparent illness, that it may have lain dormant in the throat of one or other members of the household, and that thus the fresh case originated. It may, of course, have resided in infected clothing or furniture.

Diphtheria Notifications, 1909—

| | | | | |
|-------------------|-----|-----|-----|----|
| Acton | ... | ... | ... | 1 |
| Buerton | ... | ... | ... | 1 |
| Cholmondeston | ... | ... | ... | 2 |
| Church Minshull | ... | ... | ... | 1 |
| Calveley | ... | ... | ... | 2 |
| Crewe | ... | ... | ... | 1 |
| Chorley | ... | ... | ... | 1 |
| Church Coppenhall | . | ... | ... | 1 |
| Dodcott | ... | .. | ... | 8 |
| Haughton | ... | ... | ... | 3 |
| Haslington | ... | ... | ... | 1 |
| Minshull Vernon | ... | ... | ... | 1 |
| Poole | ... | ... | ... | 1 |
| Peckforton | ... | ... | ... | 1 |
| Stoke | ... | ... | ... | 4 |
| Spurstow | ... | ... | ... | 4 |
| Willaston | ... | ... | ... | 7 |
| Wettenhall | ... | ... | ... | 3 |
| Warmingham | ... | ... | ... | 1 |
| Worleston | ... | ... | ... | 2 |
| Wrinchill | ... | ... | ... | 1 |
| Wrenbury | ... | ... | ... | 1 |
| Total | | | | 48 |

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(c) Puerperal Fever.—One case of this disease was reported. It was that of a woman aged 41 years, living at Spurstow. She was attended in her confinement by a midwife, and on the third day after delivery began to be ill, and was then attended by a medical practitioner. She died on September 10th. Immediately the case was reported it was visited. The house was found to be in a very dirty condition internally, and the premises externally were far from sanitary. Dr. Turner requested the midwife to abstain from practice until she had finished attending on this case and had undergone a thorough disinfection.

As soon as the body of the woman was interred he had the premises thoroughly cleansed and disinfected, and the bed on which she had lain destroyed. The midwife abstained from practice for fourteen days, and her person and garments were carefully disinfected. No other case of disease in lying-in women resulted from this case.

(d) Enteric Fever.—Three cases of this disease were notified, viz.:—a woman aged 26 years, at Shavington, on May 27th; a child aged 8 years, at Shavington, on July 3rd; and a boy aged 14 years, at the Workhouse Infirmary, on December 20th. Of these only one case, viz.:—that of the child from Shavington, was treated at the Isolation Hospital. The cases at Shavington were difficult to explain. The case at the Workhouse Infirmary was clearly infected in Crewe, whence he was admitted suffering from the disease.

(e) Erysipelas.—The four cases of this disease call for no special comment. They occurred at Edleston, Spurstow, Wybunbury, and Gresty.

Isolation.—During the year 72 cases belonging to the Rural District were admitted to the Isolation Hospital. They were as follows:—

| | | | |
|-------------------|-----|-----|----------|
| Scarlet Fever ... | ... | ... | 54 cases |
| Diphtheria ... | ... | ... | 17 „ |
| Enteric Fever ... | ... | ... | 1 case |
| | | | --- |
| Total | .. | | 72 cases |
| | | | --- |

The Isolation Hospital has been of very great advantage to the district since it was opened and has well repayed the money spent upon it.

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Hospital Accommodation.—The hospital accommodation of the district consists of the following Institutions:—the Nantwich Union Workhouse Infirmary, Worleston; the Nantwich Joint Isolation Hospital, Worleston; and the Nantwich Joint Small-pox Hospital, Ravensmoor.

A new Cottage Hospital is being erected in Nantwich and its beds will be available for residents of the Rural District.

Disinfection.—Articles of bedding and unwashable clothing are now always disinfected at the Isolation Hospital. There has never been the slightest difficulty in having them handed over for disinfection.

School Closure.—In a few cases schools were closed during the earlier part of the year with the consent of the Managers on account of infectious outbreaks. After the issue of the new Education Code and the Circular of the Local Government Board as to school closure considerable difficulty arose owing to the fact that it was rendered illegal for Managers to close their schools voluntarily on the advice of the Medical Officer of Health as had been the practice in this district for many years. The duty of arranging for closure is now thrown on the School Medical Officer, who is the County Medical Officer of Health. As he cannot possibly be in intimate touch with the whole of the Schools of the County, it seems wrong to make him the responsible person. The power of advising closure should have been left in the hands of the District Medical Officer as before; but that he should be compelled to notify at once his action to the School Medical Officer. The present system, though admirably suited to the working of a large town, is quite unsuitable for the working of a County. It is feared that the Cheshire Education Authority must have lost considerable sums in grants owing to the delays necessitated by the new system.

Inspection of the District.—Dr. Turner has been in every township of the district during the year in the execution of his duty and has made careful systematic inspections of the townships of Audlem, Hankelow, Buerton, and Newhall.

Rivers Pollution.—There is no improvement in the condition of the streams of the district.

Drainage.—There is no progress to report in this important matter. The condition of Haslington, Crewe, Willaston,

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Broad Lane, and portions of Shavington is very bad indeed and urgently calls for improvement.

Water-supply.—The water-supply of Chorley is now completed and a new scheme for the supply of Brindley, Burland, and Faddiley is before the Local Government Board.

In the month of May a special report was presented upon the need for the improvement of the water-supply of Audlem and the townships which surround it.

Slaughter-houses.—These have been carefully supervised during the year.

Diseased Meat.—No seizures have been made during the year, but a large number of carcasses have been examined by Dr. Turner and the Inspector at the request of owners thereof.

Four carcasses of tuberculous animals were totally destroyed as was one carcass much affected with "Quarter Evil." In three tuberculosis cases portions of carcasses with the consent of the owner were destroyed.

Factories and Workshops.—These places have had careful supervision. One bakehouse has been thoroughly overhauled and put into a sanitary condition.

Housing of the Working Classes.—A few new cottages have been built during the year; but there is still plenty of room for more good cottages in the purely agricultural parts of the district.

Anthrax.—Fewer cases than usual have been reported. There has been no case of human infection.

Dairies and Cowsheds.—This work has had careful attention.

Refuse Removal.—This work is undertaken by the District Council through contractors in Audlem, Church Coppenhall, Haslington, Shavington, Willaston, and part of Wistaston. The scavenging of Shavington has not been satisfactorily performed during at least some parts of the year.

Nantwich Rural District.

Surveyor's Report.—The Surveyor, Mr. C. E. Davenport, presents a Report, appended to that of the Medical Officer of Health, which contains many matters of sanitary interest, and an abstract of it is therefore given.

Water-supply.—A total length of 2,320 yards has been added to the Council's water mains during 1909, namely, 1,457 yards in Chorley, 399 yards in Hough, and 464 yards of main laid to the site of the proposed Cottage Hospital. The total length of mains laid in the Rural District to the end of 1909 is 288,343 yards, or 163 miles, 1,463 yards. Mains laid by private owners prior to 1901 are not included.

There has been an addition of sixty-one houses connected to the water mains of this district during the year, making the total number of houses supplied by these mains, since 1879, 4,405.

The total quantity of water consumed in the Rural District in 1909 was 79,078,000 gallons; 1,472,000 gallons of this were supplied to the Malpas Rural District Council, for Bickley Township. The consumption of water per house per day for the year was 53.6 gallons, the consumption per head of population per day being 10.7.

The new extension of the mains to Chorley Green has been carried out during the past year, and four additional farms and a small holding have been supplied by this means. The total number of farms and houses in Chorley now supplied from the mains is twenty-six. All the farms are supplied by meter. An extension in Dig Lane, Hough, has also been carried out during the year, and a number of houses are now supplied from the mains: the previously existing water-supply to these houses was reported by the County Analyst to be unfit for domestic use.

The Stapeley Waterworks have continued to give satisfaction during the past year, but the supply from the reservoir had often to be supplemented by means of the other mains laid in the township.

A scheme has been prepared for supplying Audlem and the surrounding townships with water from the present main in Cholmondeley, which is connected to the Liverpool main at Egerton Green. Eleven townships are included in this scheme, namely:—Wrenbury, Woodcote, Sound, Broomhall,

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Newhall, Dodecott-cum-Wilkesley, Coole Pilate, Audlem, Buer-ton, Hankelow, and Hatherton. Particulars of the capital cost in each township, together with the probable income and expenditure, are given in the report which has been printed and circulated. Enquiries are now being made from the property owners in each township to ascertain if they would be prepared to guarantee the deficiencies in their particular townships. Lord Combermere has promised to guarantee the deficiency in respect of the Combermere Estate, and it is hoped that other property owners will follow his example.

Plans and estimates have been prepared for supplying the townships of Brindley, Faddiley, and Burland with water (including a branch main to the new County Council small holding, and the Ash House). These were submitted to the Local Government Board, and an inquiry has recently been held with respect to same.

Sewerage.—Little progress has been made in respect to sewerage works in the various townships during the past 12 months.

The terms upon which the Nantwich Urban District Council will take the sewage from Broad Lane, Stapeley, have not yet been finally agreed to. Negotiations with respect to the sewage from London Road and Crewe Road, Willaston, are still in progress.

Negotiations have been successfully concluded for obtaining a site for the Willaston sewage disposal works, and the revised plans have been prepared and ordered to be sent to the Local Government Board.

The Haslington scheme has not made any further progress in the last twelve months, the question of a site for the sewage disposal works being still under consideration.

New Buildings.—Plans for 92 new buildings were passed by the Council in 1909 as follows:—

| | | | |
|-------------------------------|-----|-----|-------|
| New Houses ... | ... | ... | 59 |
| New Outbuildings ... | ... | ... | 14 |
| Alterations and Additions ... | ... | ... | 12 |
| Schools and Public Buildings | ... | ... | 6 |
| New Factories... | ... | ... | 1 |
| | | | <hr/> |
| | | | 92 |
| | | | <hr/> |

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The total number of plans for new buildings sanctioned for this district since these Urban Powers were first obtained in 1875 is 2,945. The following statement gives the total number of plans sanctioned up to the end of 1909, in the townships of the Rural District:—

| | | | |
|-------------------|-----|-----|-------------------|
| Audlem | ... | ... | 158 |
| Shavington | ... | ... | 307 |
| Bunbury | .. | ... | 108 |
| Willaston | ... | ... | 374 |
| Haslington | ... | ... | 418 |
| Church Coppeshall | ... | ... | 701 |
| Other Townships | ... | ... | 879 |
| | | | <hr/> 2,945 <hr/> |

All new buildings have been inspected on completion.

Report of Inspector of Nuisances.—Mr. J. Storey reports on certain matters which have come under his special notice, and the following are some of the most interesting items in his report:—

“ Milk Supply.—Recognizing the importance of a careful supervision of the milk-supply, I have given every attention to this important work. Inspections have been made at regular intervals at all the dairy farms, and excepting a few minor faults, there was not much to complain of. The care taken by the majority of cowkeepers and dairymen is most praiseworthy. The limewashing and cleansing of the cowsheds and dairies was carried out in accordance with the regulations adopted by your Council. In several instances I found that more had been done in the way of limewashing than is required by the regulations. Many of the cowkeepers now recognize that the secret of clean sheds lies in frequent limewashing. In the course of my inspections I have consistently and repeatedly told cowkeepers that the roofs of their cowsheds should not be neglected during the process of limewashing, and pointed out to them that the most effective way of cleansing corners and crevices is done by using an ordinary garden syringe that would reach the places which could not be effectively cleansed with a common brush. I have recommended the use of a liquid disinfectant plus the limewash as a thorough germicide, its

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special insecticidal properties making short work of those troublesome insect pests such as flies' eggs, fleas, lice, &c., which lurk in old wood and odd corners. For washing down gangways (between the stalls) and for scrubbing the paving on which the bedding lies, nothing is better than a coarse bass broom, plenty of water, with a half-pint of liquid disinfectant to each bucketful of water. With a daily washing of the floors the result would be not only increased health but greater comfort for the animals themselves.

"In a number of cases it was found necessary to call the attention of cowkeepers to the condition of the manure heaps which were considered to be too near the sheds, and on sanitary grounds they were requested to deposit the manure at a greater distance from the buildings. On re-inspection I found that in most cases my request had been complied with.

"Improvements have been made in the drainage, lighting, paving, and ventilation of forty-nine cowsheds on the estates owned by Lord Combermere, Lord Tollemache, The Earl of Crewe, Sir D. L. Broughton, Sir P. Egerton, Captain Walthall, Mr. Henry Tollemache, Mr. E. H. Lloyd, Mr. J. Garner, Mr. Aldersey, Mrs. Hewitt, Mrs. Shaw, and others, with the view of making them conform to the regulations in force in your district. Seven new cowsheds and three new dairies have been erected. Improvements have also been made in the drainage, lighting, ventilation, &c., of cowsheds on a number of the small holdings in the district. My experience has proved that it is the backward farmer who believes in the "virtue of darkness." That his belief is erroneous has been proved by the fact that all intelligent cowkeepers are convinced that the proper lighting and ventilating of their cowsheds is decidedly in their best interests. The dairymen and cowkeepers in the district dispose of their milk as follows:—3 send it to Birmingham, 14 to the Creamery, Audlem, 56 to Crewe, 1 to Llandudno, 32 to Liverpool, 57 local, 12 to London, 11 to Manchester, 3 to Maypole Co., 27 to Middlewich, 1 to Pendleton, 1 to Pipegate Creamery, 1 to Sandbach, 1 to St. Helens, 3 to Stockport, and 13 to Wrenbury Factory.

"Water-supply.—Five samples of water were sent to the public analyst for analysis; four of the samples were certified as being unfit for domestic use, and one sample,

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which was the second taken from a well at Reaseheath, was certified as a second class water indicating signs of previous sewage contamination and condemned as being unfit for dietetic purposes if a better supply could be procured. The well from which this sample was taken had been previously cleaned out, and although the water mains are within a reasonable distance of the cottages which obtain their domestic supply from the well in question, your Council was of opinion that the analyst's observations did not warrant the closing of the well, and therefore no action was taken in the matter.

"I have on more than one occasion stated in my reports to the Sanitary Committee that the construction of wells, especially shallow wells, is a matter of great importance, and pointed out that the exclusion of surface water and the prevention of contamination from manure spread on land, from decaying vegetation, from cesspools, from leaky drains, from liquid filth, &c., can only be secured by having the wells constructed for a depth of at least eight feet with hard blue brick laid in cement or with concrete with a backing of puddled clay, and the paving of the surface around the well, and the construction of a suitable drain to carry all waste water from the neighbourhood of the well. If these precautions were taken when wells are being constructed, provided that the site of the well is discreetly chosen, a fairly good domestic supply in most cases could be obtained. One new well has been constructed, one cleaned out, and three old wells closed.

"Canal Boats.—Seventy-six boats have been inspected during the year and infringements found on nine of them.

"There were 56 women, 120 men, and 61 children whose ages ranged from under one year to under twelve years) on the boats inspected. On 32 boats there were men, women, and children; on 30 boats there were men only; and on 14 boats there were both men and women.

"Thirty boats were the homes of their crews; 46 of the crews had homes apart from their boats.

"The majority of the boats inspected belonged to the Shropshire Union Railway and Canal Company, who paid prompt attention to any complaint made to them, and with as little delay as possible had the matters complained of rectified.

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"I have always found a disposition on the part of the Company's employes to render me every assistance with the view of making my inspections as thorough as possible.

"No legal proceedings have been taken during the year."

Special Report on the Water Supplies of Audlem and District.—The following is a copy of a Special Report by the Medical Officer of Health on the important question of the water supplies of Audlem and District—a matter which is now before your Public Health and Housing Committee:—

In accordance with your instructions I beg to submit the following report on the Water Supplies of Audlem, and of the surrounding portions of the Nantwich Rural District.

The township of Audlem is situated in the Southern corner of the Nantwich Rural District, adjoining on its south side the County of Salop, and on its other sides the townships of Hankelow, Buerton, Newhall, and Coole Pilate.

The township had at the last census a population of 1,475 persons. Its population is probably now about the same as it was then. It consists of a central or urban portion (the town of Audlem) having a thickly clustered population, and of various outlying portions of a thinly populated and agricultural character.

The central portion of the village has a subsoil of sand and gravel, it being a drift in the red marl formation, whilst the outlying portions are almost entirely situated on the new red marls.

This central portion of the township is to about half its extent drained into a comparatively recently constructed public sewer. The remainder is drained more or less efficiently into cesspools or into the river Weaver, which flows through the village.

Audlem is served by the Great Western Railway and possesses a good railway service.

In the centre of the village is the Parish Church, which is situated on an eminence rising from twelve to twenty feet

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above the surrounding village. This eminence furnishes the land for the churchyard, which is well filled but is now disused.

Round this churchyard the houses of the village are thickly clustered, and within a comparatively few yards are the most important of the shops and public houses.

On the opposite side of the road from the churchyard and situated about eighty yards therefrom is the parish Cemetery. Besides these burial grounds there is another small one adjoining the Baptist Chapel, which is about 200 to 250 yards from the churchyard. This burial ground is now disused but a considerable number of interments have taken place there in years gone by.

In the village proper there are five public houses, the National Schools, three Nonconformist places of Worship, a new Police Station, and a Public Hall, with Caretaker's residence attached.

The National Schools, the Police Station, and the Public Hall are without any supply of water of their own, being dependent on their neighbours for the water they require.

Of the public houses, the Crown Hotel has a comparatively new well, situated in the garden at a distance of about thirty yards from the house. This well is fitted with a horse pump and appears to afford a copious supply of water. The water has not been analysed but would appear to be good.

The Combermere Arms and the Phoenix Inn are situated near to the Crown Hotel. They are both provided with pumps, which are said to provide a free supply of palatable water. The pump at the Combermere Arms supplies water to a confectioner's shop, and to several cottages. That at the Phoenix Inn is the main supply of eight or ten cottages.

The Lamb Hotel is situated quite close to the church-yard, and is provided with a pump in its back-yard. This pump is within a very few feet of the border of the churchyard, which stands six or eight feet above it.

The Bridge Inn is situated about 150 yards from the centre of the village. It is supplied with water from a pump in its back-yard. This pump-well is not sufficiently protected from

Nantwich Rural District.

surface pollution, and is said to fail in summer time. It is freely used by canal boatmen and others.

Near to the last named public house is the Canal Wharf, on which are two dwelling houses. These are supplied by a pump, the water of which is not considered by the occupants to be fit for use unless filtered or boiled.

Adjoining the yard of the Lamb Hotel is a row of small houses, at the end of which is a butcher's shop. The back-yard of this shop adjoins the Lamb Hotel, and in it is the pump-well which supplies the butcher's household, and probably a number of his neighbours. About six feet from the pump-well is a large pigstye outlet (or pig run), belonging to the Lamb Hotel. This outlet contained when I visited it about half a dozen pigs. The floor of the pigstye is an open jointed pavement of stones and bricks.

On the opposite side of the churchyard, and closely adjoining it is a grocer's shop and bakery. These premises are supplied with water from a pump in the back-yard, which pump is only a very few feet from the fence of the churchyard.

Proceeding along the street (Stafford Street) in which this shop stands we pass several residences, shops, and rows of cottages, some of which have pumps on their own premises, and some of which borrow water from their neighbours.

On the left of this street lies the portion of the village known as Salford. Here there is a cluster of cottages of which at least eight derive their water-supply from an open well in a garden. This well is situated just over a low fence, which separates it from the road. It is about two or three feet below the level of the surrounding garden, and is entirely unprotected. It must in any time of heavy rain be polluted by surface washings, and it is quite easy for anyone in the road to spit into it, or to throw anything into it.

In the village proper it is quite clear to me that it is comparatively easy to find by sinking wells a considerable amount of water, the nature of the subsoil being what it is; but it is also clear that the surroundings of the wells—the proximity of burial grounds and the nature of the subsoil—render the waters of these wells eminently liable to pollution.

Nantwich Rural District.

The outlying portions of the township are Kynsall Heath, Swanbach, Cox Bank, Green Lane, and Little Heath.

KYNSALL HEATH is about three quarters of a mile from the village. It consists of some private residences, a few farms and a number of cottages. This portion of the township is badly off for water and the sinking of wells is not as a rule successful here in finding a supply. Many of the cottages are without any supply, and some at least of the pumps which do exist appear to me to be situated in unwholesome surroundings.

SWANBACH consists of a number of cottages and a few farms. There are five cottages here without a supply. One pump well appeared to me to be very inadequately protected from pollution, whilst at the top of a slope and twenty-seven feet from the well I found an overflowing privy pail and a very filthy privy.

COX BANK is a considerable cluster of cottages, probably about twenty in number. All these cottages and one farm are without a supply of drinking water upon their own premises, but draw a supply from a well by the roadside (the Cox Bank Well). This well appears to be clean and to supply plenty of water. Though not covered it is protected from surface washings by a wall.

GREEN LANE is the road leading from Swanbach to the village proper. At the bottom of the hill by the roadside is a spout (the Sparroway Spout), which appears to be the outlet of a system of agricultural drainage. This spout supplies at least seven cottages. Its water appears to be clean and may be wholesome; but it must be very inconvenient to the cottagers to have to go so far for water, some of them having to travel from 100 to 200 yards to the spout. A little higher up the lane nearer the village there are several pumps which are said to afford good water. At one cottage (Shuker's) there is for the sole water supply a most unsavoury-looking open well in the garden, which well is quite unprotected from surface washings and would appear never to have been cleaned out in its history.

AT LITTLE HEATH the conditions are just the same as in the better portions of the township. In one case (the Elms) the pump is situated in a field from 100 to 150 yards from the rear of the house.

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COPTHORNE is the part of the Township near the station. In it are situated the creamery, the station, the station-master's house, a rather large new residence, and a number of cottages. Of these the stationmaster's house, the new residence (Bourne's) and five cottages are without a supply of their own. The station-master's house is supplied from the station itself, where the pump is situated in a small out-house adjoining the station urinal, which out-house has the usual smell of its neighbour. It is only fair to say that the pump-well is situated six yards away in a small garden adjoining the platform. The owners of the creamery have at great expense provided themselves with what appears to be a clean and satisfactory deep well. Mr. Bourne's house and two cottages are supplied from a spout below the station. This spout is at least 150 yards from Mr. Bourne's house, and when I last saw it was dripping very slowly. Mr. Bourne's house is many feet (probably fifty feet) above its level. The other cottages at Copthorne are supplied from pumps which are said to be satisfactory.

HANKELow AND BUERTON are both defectively supplied. At Hankelow one row of cottages is supplied by a dip-well, by the side of a brook. This brook is not free from contamination by sewage, and in times of flood it is quite possible for this polluted brook water to overflow into the well. The well is now much safer than it used to be, inasmuch as it is now covered and protected by a wall. One large residence at Hankelow is practically without a proper supply of drinking water, whilst many of the farms in both townships are supplied by pumps, the surroundings of which are anything but good.

COOLE PILATE AND NEWHALL are both situated on the red marl, and the sinking of wells practically never results here in the finding of good water. In one case at Newhall the occupants of a cottage have to travel nearly half a mile to a road-side well in order to obtain a supply of drinking water. Of two waters submitted to the County Analyst from Newhall, both have been condemned as unsuitable for domestic purposes.

I beg to report that I have carefully considered the memorial sent by the residents of Audlem and District to the Local Government Board, and that I am in general agreement with the opinions therein expressed, except that I have never been able to trace any disease to the water supply of the neighbourhood, though I must confess that such an occurrence might

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easily take place if the soil were specifically infected by an imported case of disease being capable of water-borne.

I am of opinion that the provision of a new system of water supply for the townships I have reported upon, as well as of other townships somewhat further afield, would be of the greatest benefit to the residents of the neighbourhood.

Audlem is a beautifully situated village, having a good railway connection, and might, if its water supply were only modernised, very well become an important residential neighbourhood.

As to the source from which a supply might be obtained, I might point out that beside the possible sources mentioned in the memorial, there are possibilities of others. The Nantwich Urban District Council are intending shortly to engage in experimental borings with a view to the provision of a better supply for their district.

Should these borings prove successful, it might be possible to include Audlem and its environs in the area of supply. Further, I would remind the Rural District Council that 10 years ago, at considerable expense, they obtained the opinions of various Geologists as to possible sites for Waterworks for Audlem. These opinions might now very well be disinterred and considered.

In conclusion, I must reiterate the opinions I expressed 10 years ago that Audlem and District are in need of a better supply of water, and that from every point of view, both sanitary and economic, it would be to the best interests of the people to afford it a plentiful and pure supply.

NORTHWICH

Rural District.

Medical Officer of Health—DR. H. E. GOUGH.

Population at Census, 1901—20,923.

Population estimated to middle of 1909—24,660.

Area in acres—54,301.

Birth-rate per 1,000 living—22.1.

Death-rate per 1,000 living—11.1.

Death-rate from seven principal Zymotic Diseases—0.48.

Deaths under one year per 1,000 births—78.

This district, for registration purposes, has been sub-divided into four Sub-districts, as follows :—

1. **WEAVERHAM**, having an area of 18,000 acres, includes Acton, Barnton, Crowton, Cuddington, Delamere, Eddisbury, Hartford, Little Leigh, Oakmere. and Weaverham.
2. **NORTHWICH**, having an area of 10,891 acres, includes Allostock, Anderton, Cogshall, Comberbach, Leftwich, Lostock Gralam, Marbury, Marston, Nether Peover, Wincham, and Winnington.
3. **OVER**, having an area of 12,472 acres, includes Clive, Darnhall, Eaton, Little Budworth, Marton, Moulton, and Wimboldsley.
4. **MIDDLEWICH**, having an area of 12,938 acres, includes Bostock, Byley, Davenham, Kinderton, Lach Denuis, Rudheath, Stanthorne, Sproston, and Whatcroft.

The population of this Rural District has been estimated to be 24,660 at mid-year 1909, the numbers in each sub-district being as follows :—

| Sub-District. | Excess of Births over Deaths. | | Population estimated to middle of 1909. |
|---------------|----------------------------------|-----|--|
| Weaverham | ... | 72 | 9,530 |
| Northwich | ... | 97 | 8,650 |
| Over | ... | 29 | 3,100 |
| Middlewich | ... | 29 | 3,380 |
| Totals | ... | 227 | 24,660 |

Northwich Rural District.

Births.—The number of births registered during the year was 546, of which 270 were males, and 276 females. This number is a decrease of 22 upon the previous year, and gives a rate of 22.1 per 1,000, which is less than the ten years average by 3.6 per 1,000.

There were 25 births of illegitimate children, which gives a rate of about 10 per cent. of the births.

Deaths.—The total number of deaths registered during the year was 276, which is less than last year's number by 16, and gives a rate of 11.1 per 1,000. One hundred and eight of these deaths occurred in the Weaverham (sub district), 85 in Northwich, 43 in Over, and 40 in Middlewich. Thirteen deaths occurred in the Isolation Hospital at Leftwich, but only two of these were of persons belonging to this district. Seventeen deaths were from zymotic diseases, including influenza, 13 were from consumption of the lungs, and 12 from consumption of other organs, 15 were from cancer, 43 from diseases of the lungs (excluding phthisis), four from alcoholism, seven from premature birth, 11 from accidents, four from parturition, 25 from heart disease, 49 from old age, and the remainder from various other causes.

Inquests were held upon 17 deaths, and of these seven were from falls, one from burns, one from suicidal hanging, one from being "gassed" at a chemical works, and the remainder from natural causes.

Two deaths were uncertified.

The death-rate is 11.1 per 1,000, which is a decrease of 1.6 upon the ten years' average.

There were 7 deaths of illegitimate children, from atelectasis, diarrhœa, premature birth, marasmus, congenital heart disease, and bronchitis (2). Three of the mothers were described as domestic servants, 2 as of no occupation, and 2 as dressmakers.

Infantile Mortality.—The number of deaths of infants under 1 year is 50, none of which were uncertified. This is actually the lowest number during the last ten years, and is 34 less than the average; the rate per 1,000 births is 101, or practically 10 per cent. born do not live to be one year of age.

Northwich Rural District.

These deaths were distributed amongst the 4 sub-districts as follows:—Weaverham 12, Northwich 15, Over 10, and Middlewich 6. The causes of these deaths were as follows:—Only 1 from diphtheria, and 2 from diarrhœa, 7 from premature birth, and 8 from debility, &c., 11 from diseases of the lungs, 4 from convulsions, and the remainder from various other causes.

Infectious Diseases.—The total number of infectious diseases notified was 193, of which 1 was enteric fever, 2 puerperal fever, 21 erysipelas, 21 diphtheria, and 148 scarlet fever. The case of enteric fever was an imported one, and was removed to hospital. Four of the cases of diphtheria and 59 of the cases of scarlatina were also removed to hospital.

The number of deaths from infectious diseases was 19—4 from scarlet fever, 1 from whooping-cough, 2 from diphtheria, 5 from influenza, 2 from diarrhœa, and 2 from erysipelas. The zymotic death-rate (calculating the 7 principal zymotic diseases) was .48 per 1,000, which is .29 less than that for 1908.

Any suspected case of diphtheria or enteric fever is bacteriologically examined free of cost, and antitoxin is also supplied free by the Council to any case of suspected diphtheria.

There were 16 specimens sent to Professor Delépine for examination during the year; three were specimens of blood in suspected cases of enteric fever, and all were negatived, 13 were swabs from throats, and of these five negatived, and seven confirmed diphtheria, while one was “doubtful.”

School Closure.—During the year the following schools were closed; Davenham, from May 27th to June 7th; Delamere, from July 7th to July 23rd; Moulton, from April 19th to May 3rd; Weaverham, from July 19th to July 26th; Sandiway, from April 1st to April 19th.

All of these schools were closed on account of scarlet fever; in several cases it was found that a “peeling” case was attending school, and closure was at once adopted to allow any infected children to develop the disease elsewhere than in the classroom. The closures in several cases ran with the normal holidays for the greater part of the time.

All schools are disinfected when closed for an epidemic, and periodic disinfection is carried out, as related in the Inspector's Report.

Northwich Rural District.

Prevention of Consumption.—There is the poor-law system of notification in this district, and during the year three notifications have been received. When a notice is read, or on request, disinfection of the premises is carried out, and advice as to spitting, &c., is given. Any sanitary defects are of course remedied.

Housing.—Plans have been passed for 59 houses, and for 12 other buildings, during the year.

Two cases of overerowing have been abated.

Four houses have been condemned by the Medical Officer of Health as unfit for habitation, two were closed by Justices' Order, one was abandoned, and the remaining one is still pending. Two other houses have been provided with increased window accommodation in bedrooms, on representation to the agent by the Medical Officer of Health that it was necessary.

There is a great demand within this district for good workmen's cottages at a rental, which the average labourer, with from 18s. to 24s. per week, can pay; say 2s. 6d. to 3s. 6d., and as the bye-laws require three bedrooms, it is clear that none can be built to pay any interest for that rental the result is that all the old cottages are eagerly sought after, and as they are becoming derelict and scarce, the shortage is more acute. This Rural District has within its area, several large chemical and salt works, it also completely surrounds the small Urban Districts of Northwich, Middlewich, and Winsford, and these places create a demand from their workers for cottages; the more rural portion on the forest side is largely residential, and numbers of grooms, stable boys, gardeners, and chauffeurs, are employed, while the agricultural labourer also badly needs cottages.

It seems somewhat anomalous that good as the original intention was of compelling three bedrooms, it should have reacted so as to really cause worse housing than formerly, and a revision of the Bye-laws, allowing houses with only two or even one bedroom to be built, would be a distinct advantage, if proper safeguards were enforced.

Many couples have no family, many widows are left with one or two small children, these and all newly married couples could very well do with a house which had only one bedroom, and it is evident that numbers of families could be amply served with two. If houses were allowed to be built with

Northwich Rural District.

one living room and one bedroom, of a definite size and structure, to be laid down in the Bye-laws, and each house to have a plot of ground enclosed and entirely devoted to itself, with a lean-to or even a wooden wash-house, pantry, and coal-house, and thoroughly efficient sanitary conveniences and drainage, with also a plentiful water-supply, it would unquestionably meet a very acute want, and if similar safeguards were extended to two bed-roomed cottages, there is no doubt that a thoroughly good class of tenants would be secured, with very great advantage to all dwellers in the district.

As already mentioned, two cottages were closed by order of the Justices. Their history is instructive.

They were standing in the middle of a field, which was a quagmire of sewerage from shippens, and night soil in close proximity to them.

The cottages were without any drainage at all, the spouting was almost nil, and they had sanitary conveniences of the most primitive kind; originally they formed part of a cart shed or barn, and had been converted into cottages. The Sanitary Authority condemned them as unfit for habitation, and the owner would not do anything at all to them. The Sanitary Authority were obliged to turn the tenants out; one family had lived there for nearly thirty years, and the other one ten years, and they spent days in wandering about for another house, and were considerably harassed and worried, besides suffering a, to them, considerable financial loss. It does seem as if private enterprise has failed to house the working class.

Water-supplies.—These are from several sources, and a constant supply is maintained to some 3,626 houses, and supplies are drawn from the Liverpool Corporation, and the Urban District Councils of Northwich, Middlewich and Winsford, and also in seven townships from springs, in the pumping of which four steam engines, two oil engines, and one turbine, are at work.

Over two miles of extensions of mains have been put down during the year in Oakmere and Weaverham, and other extensions are in course of preparation.

Twelve samples of water have been analysed during the year, and of these eight were bad and four good, of the eight

Northwich Rural District.

bad samples three were from a farmhouse (not registered), and the amelioration of the supply is still under consideration.

Another sample was from the Crown cottages at Oakmere, and this supply has been abandoned. One case of lead contamination was found, through storing in a lead cistern, this has been condemned, and a fresh supply used.

Another was a well which was found to be bad, and it supplied five cottages, it has been abandoned and water from the Council's mains provided.

The other cases remain to be dealt with.

Sewerage and Sewage Disposal.—Fifteen townships in this district have sewage works, they are Moulton, Davenham, Leftwich, Kinderton, Anderton, Barnton, Comberbach, Hartford, Little Budworth, Lostock, Marston, Rudheath, Weaverham, Wincham, and Winnington. The treatment is by septic tanks, land treatment, and bacteria filtration.

Amendments of the outfall works at Lostock, Gunnersclough, and Wincham, have been carried out during the year. No complaints have been made about the outfall works.

There is a portion of Hartford in which a system of sewers is required, and it is being considered at the present time.

Scavenging.—Two of the townships in this area have a system of pail closets, which are changed weekly, the work being carried out by eight contractors. Where cesspool and privy middens exist in isolated cottages, they are emptied by the owners, the dry ashpits are cleared once in two months, and the dust-bins once each alternate week. The system seems to be quite adequate for the district.

Dairies, Cowsheds, and Milkshops.—There are 383 dairies and cowsheds on the register, and no milkshops, and about 500 inspections have been made, 383 notices for lime-washing have been sent, and no legal action has been necessary.

There are standing Committees of the Council expressly for the purpose of visiting and inspecting dairy farms and shippens, and in the last five years an immense amount of

Northwich Rural District.

work has been done, and extensive structural alterations called for, in raising ceilings, in re-laying floors and in raising them, also in compelling more and larger windows to shippens, and to prevent overcrowding. There are regulations in force under the Dairies, Cowsheds, and Milkshops Order.

Factories and Workshops.—There are 128 of these upon the register, 32 being bakehouses. They consist for the most part of village tradespeople, where overcrowding is not at all common.

They are inspected frequently, and the bakchouses are in good condition and cleanly. Twelve nuisances have been abated, only one notice being necessary, 224 inspections have been made. There are no out-workers.

Slaughter-houses.—There are 24 registered slaughter-houses, and during the year the Council have been getting an extension of their Byc-laws to the whole district, which is now awaiting the final consent of the Local Government Board. These have been inspected and kept limewashed. Inspections have been made while slaughtering has been in progress.

Adoptive Acts and Bye-laws.—The Adoptive Acts which are in force in this district are the Infectious Diseases Prevention Act, Public Health Amendment Act, 1890, Section 32, Hoardings, and Sections 30 and 31 of the Towns Police Act in Winnington.

Bye-laws are in force relating to new streets and buildings, common lodging-houses, slaughter-houses. New Bye-laws were adopted under the latter heading during 1909.

Report of the Surveyor and Inspector.—Mr. H. J. Bennett appends a Report on certain other matters of sanitary interest, from which the following quotations are taken:—

School Disinfection.—At the request of the Administrative Sub-Committee for the Northwich and district area, the Council have undertaken to disinfect the whole of the Schools under their control in the Council's district twice a year, viz., during the Summer and 'Xmas holidays.

Under that order 19 public Schools have been twice disinfected in a thorough manner during the year 1909.

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Dairies Order.—There are 383 farms registered for the sale of milk, and nearly the whole have been brought into entire conformity with the regulations, in fact on some estates the work is nearly complete, the improvement is marvellous, and there is now a list of small and isolated cases awaiting the action of the Standing Committee, and a word of praise is due to farmers for the general effort to maintain their registered shippens clean and in good order.

Three hundred and eighty-three notices to limewash during May and October have been issued and faithfully carried out by the farmers.

Waterworks Extension.—Waterworks have been extended over 4,000 yards during the year in Oakmere and Weaverham, and other extensions are now in preparation, and works supplying water to 3,626 houses have been maintained in constant service.

Scavenging.—The scavenging of the ten townships by the change pail system, which gives each house a clean disinfected pail each week, seven tons of 15 per cent. carbolic powder being used for this purpose alone, have been maintained, and the Council have now resolved that in the township of Hartford all privies shall be altered to water-closets, and scavenging for house refuse only, and the further extension of water closets is under consideration.

Water.—There have been 12 samples of water analysed, 8 samples certified bad and four good.

Of the bad water three samples are from the same farmhouse (not a registered farm) and the case has not yet been remedied, another case was from the Crown cottages, the which has had other water supplied, one had traces of lead through storing in cistern; this was abandoned and other supply obtained, one was from well supplying five cottages, this also was abandoned and a supply obtained from the Council's main, the other two are being dealt with by the Council.

Nuisances.—Statutory notices for the abatement of nuisances at 82 houses, have been served and carried out, but in addition to this there is an agreement with the agents of the larger estates in the district, that on any nuisance or other matter requiring attention on their estates being brought to

Northwich Rural District.

their notice, that it shall have prompt attention, and it is my duty to state that this understanding has been faithfully adhered to. Of these, which are numerous and do not come before the Council, no record is kept.

New Buildings.—There have been plans approved for 59 houses, and 12 plans of other streets and buildings.

Slaughter-houses.—The 24 registered slaughter-houses in the district have been inspected frequently, and the Council have been engaged in bringing the slaughter-houses under the new Bye-laws, which are now awaiting the final approval of the Local Government Board.

Factory and Workshops Act.—There are 128 workshops on the register, of which 32 are bakehouses, these are inspected frequently, and of the remaining 96, they are the village dress-maker, shoemaker, country smith, and wheelwright; on these 12 nuisances have been abated on request, and only one notice being necessary. The bakehouses and workshops are now in approved sanitary condition.

Sewage Works.—The sewage works for 14 townships have been maintained in effective working order by repairs, reconstructions and renewals, as the needs become apparent.

Canal Boats Act.—There are over 22 miles of canal in the Council's district, 91 boats have been boarded and examined, 62 have been passed in order, and 35 infringements of the regulations on 29 boats remedied.

Housing of the Working Classes Act.—Four houses have been condemned as unfit for human habitation, two of these were closed by Justices' order, one abandoned, and one pending.

RUNCORN

Rural District.

Medical Officer of Health—DR. J. ADAMS.

Population at Census, 1901—23,244.

Population estimated to middle of 1909—25,721.

Area in acres—45,159

Birth-rate per 1,000 living—26.8

Death-rate per 1,000 living—11.9.

Death-rate from seven principal Zymotic Diseases—0.62.

Deaths under one year per 1,000 births—72.

This District has, for registration purposes, been divided into three Sub-districts as follows :—

- 1.—BUDWORTH, having an area of 24,160 acres, includes Great Budworth, Seven Oaks, Antrobus, Crowley, Higher Whitley, Lower Whitley, Bartington, Stretton, Stockton Heath, part of Appleton, part of Walton Inferior, Walton Superior, Acton Grange, Moore, Keckwick, Hatton, Daresbury, Newton-by-Daresbury, Preston-on-the-Hill, Dutton, part of Latchford, Grappenhall, and Thelwall.
- 2.—RUNCORN, having an area of 9,174 acres, includes Aston Grange, Aston-by-Sutton, Sutton, Stockham, Norton, Halton, Weston, and Clifton.
- 3.—FRODSHAM, having an area of 15,825 acres, includes Frodsham Township, Frodsham Lordship, Helsby, Alvanley, Manley, Newton-by-Frodsham, Kingsley, Norley, and Kingswood.

Population.—The population of this Rural District is given in the census returns of 1901 as 23,244, and is estimated to have increased at mid year, 1909, to 25,721.

Births.—During the year 1909 691 births, and 328 deaths were registered as having occurred within the district—compared with an average for the preceding ten years, of 638 births and 347 deaths. The birth-rate is thus 26.8 per thousand of the estimated population.

Deaths.—There were 328 deaths registered, giving a rate per thousand of the estimated population of 11.9.

Runcorn Rural District.

This gross total of 328 deaths in this district includes 18 deaths occurring in persons belonging to the Runcorn Urban District, and which occurred in the Union Workhouse or Hospital, at Dutton; these 18 deaths must therefore be deducted from the total.

Further, there were 6 deaths from consumption, or tubercle of lungs, or other tuberculous disease, which occurred at the Manchester Sanatorium at Kingswood; and these 6 deaths from tubercular disease belong to Manchester and districts adjoining, and must therefore be deducted from the total.

Again, two deaths occurred at Acton Grange, one man being "found drowned" and another was killed by "collision with a bicycle" and these 2 deaths belong to Warrington, and must therefore be deducted. To these, however, must now be added 4 deaths of "residents" belonging to the district which occurred in public institutions outside the district, namely, one in Liverpool Royal Infirmary, one in Liverpool Royal Southern Hospital, one in Victoria Infirmary, Northwich, and one in the Warrington Infirmary. Adding these 4 deaths to the previous correction of 302 deaths we get finally a *corrected, or nett* total of 306 deaths, as belonging to the Runcorn Rural District during 1909.

When births and deaths for 1909 are compared with the averages of the preceding ten years, it will be observed that there is an *increase* of about 53 births, with a decrease of 19 deaths. From the population point of view, this is distinctly satisfactory. The births have increased and the deaths have decreased.

Out of this corrected total of 306 deaths belonging to Runcorn Rural District alone, 8 were "uncertified" and 33 formed the subjects of Coroner's inquiries.

Of these deaths 50 occurred in children *under one year of age*, with a death-rate of 72 per thousand of registered births, as compared with the previous rate of 93 per 1000 registered births during 1908 and an average of 114 per 1000 registered births for the preceding ten years.

The rate of infantile mortality in 1909 is thus seen to compare very favourably with that in 1908. There is still a great improvement on the records of 9 or 10 years ago, for in 1899 the death-rate among infants under one year of age, was 136.4 per 1000 of registered births, compared with only 72.3 per 1000 in

Runcorn Rural District.

1909, showing a decrease of 64.1 per 1000. This great saving of infant life is a most satisfactory result of the dissemination of more accurate and scientific knowledge in the care and rearing of infants, and is evidence of a widely awakening interest in so important a matter, on the part of the general public, and especially of the mothers.

There were no deaths among the illegitimate children, and the number of illegitimate births was 25, as compared with 9 in the preceding year.

Causes of Death.—Measles was fairly prevalent over the district in 1909, but only accounted for three deaths. This was accompanied by a general prevalence of whooping-cough, from which three deaths occurred.

Scarlet fever accounted for three deaths out of 138 cases, of which two occurred in the Isolation Hospital at Dutton. The death-rate from this disease has fallen considerably, being 2.1 per cent. Last year eight deaths occurred in 145 cases, or 5.5 per cent. in 1907, three deaths occurred in 105 cases, or 2.8 per cent. and in the previous year, 1906, not a single death occurred out of 179 cases which were notified to me.

Typhoid fever caused one death. Four cases were notified and one removed to Isolation Hospital, which died.

Diphtheria has again been prevalent, 37 cases having been notified, and resulting in five deaths. Last year, 44 cases were notified and six deaths occurred, thus 1909 is better than 1908, but the marked prevalence of this disease is unsatisfactory, and is difficult to explain, except on the ground of personal infection through school, or otherwise, the premises attacked seldom containing sanitary defects, and both milk and water supplies being satisfactory.

Phthisis (Tubercle of Lungs) caused 10 deaths, of which one occurred in persons between five and fifteen years of age; two between 15 and 25 years of age; seven between 25 and 65 years of age.

Other Tuberculous Diseases caused eight deaths, of which one occurred in infants under one year of age; two between one and five years of age; one between five and fifteen years of age;

Runcorn Rural District.

three between 25 and 65 years of age ; and one in persons over 65 years of age.

Cancer Malignant Disease caused 14 deaths, of which 10 occurred between 25 and 65 years of age ; and four in persons over 65 years of age.

Infectious Disease.—The total number of cases of infectious diseases notified during 1909 was 198 and were caused by the following diseases :—

| | | | |
|---------------------------------|-----|-----|-----------|
| Diphtheria and Membranous Croup | ... | ... | 37 cases. |
| Erysipelas | ... | ... | 18 „ |
| Scarlet Fever | ... | ... | 138 „ |
| Typhoid (Enteric) Fever | ... | ... | 4 „ |
| Puerperal Fever | ... | ... | 1 „ |
| Total | ... | ... | 198 „ |

The total number of cases of infectious diseases notified during 1909 was 198 (being 25 less than in 1908). The numbers of cases in recent years is shewn hereunder :—

| | | | |
|---------|-----|-----|------------|
| In 1901 | ... | ... | 124 cases. |
| „ 1902 | ... | ... | 226 „ |
| „ 1903 | ... | ... | 124 „ |
| „ 1904 | ... | ... | 229 „ |
| „ 1905 | ... | ... | 260 „ |
| „ 1906 | ... | ... | 313 „ |
| „ 1907 | ... | ... | 214 „ |
| „ 1908 | ... | ... | 223 „ |
| „ 1909 | ... | ... | 198 „ |

The average number of cases during the preceding 18 years is 187 ; the number in 1909 is thus 11 above the average of the preceding 18 years.

Small-pox.—No case of this disease has occurred since 1905 ; but the Small-pox Hospital at Moore is kept in order, with

Runcorn Rural District.

its own separate Washington-Lyons steam disinfecter, for any case that may arise.

Measles.—This disease is not notifiable in the district, but it was fairly prevalent, although only three deaths occurred from it, and some schools were closed in consequence of epidemics.

Scarlet Fever.—138 cases of this disease were notified, compared with 145 cases in 1908 and 105 in 1907. It accounted for three deaths. The chief outbreaks occurred in Frodsham (46 cases), Frodsham Lordship (14 cases), Stockton Heath (21 cases), Moore (13 cases).

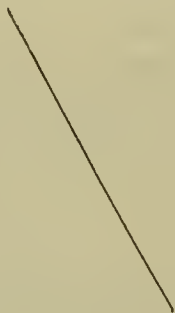
Altogether 55 cases of scarlet fever were treated in the Isolation Hospital, and two deaths occurred in Hospital; the other death occurred in a patient who was treated at home. The disease appeared to be of a severe type, many very severe cases occurring, but ultimately recovering. In 1906, when 179 cases occurred, not a single death took place.

The number of cases and deaths, for the last 10 years, is appended, for purposes of comparison :—

| | |
|------------------------------|-----------------------------|
| In 1908, 145 cases, 8 deaths | In 1903, 45 cases, 1 deaths |
| „ 1907, 105 „ 3 „ | „ 1902, 57 „ 2 „ |
| „ 1906, 179 „ 0 „ | „ 1901, 39 „ 1 „ |
| „ 1905, 110 „ 1 „ | „ 1900, 33 „ 0 „ |
| „ 1904, 101 „ 0 „ | „ 1899, 85 „ 6 „ |

Or, an average of 89.9 cases per annum, with 2.2 deaths for the preceding 10 years.

Below is a Table giving the various townships in which the disease occurred, with the number of cases and deaths :—



Runcorn Rural District.

| Locality. | | | | | | No. of Cases. | No. of Deaths. |
|-----------------------------------|-----|---------------------|-----|-----|-----|------------------|-------------------|
| <i>Runcorn Sub-District.</i> | { | Halton | ... | ... | ... | 6 | ... |
| | | Sutton | ... | ... | ... | 2 | ... |
| | | Weston | ... | ... | .. | 6 | .. |
| <i>Frodsham Sub-District.</i> | { | Alvanley | ... | ... | ... | 2 | ... |
| | | Frodsham | ... | ... | ... | 46 | 2 |
| | | Frodsham Lordship | ... | ... | ... | 14 | ... |
| | | Helsby | ... | ... | ... | 6 | ... |
| | | Kingsley | ... | ... | ... | 1 | ... |
| | | Norley | ... | ... | .. | 1 | ... |
| <i>Budworth Sub-District.</i> | { | Acton Grange | ... | ... | ... | 1 | ... |
| | | Appleton | ... | ... | ... | 1 | ... |
| | | Bartington | ... | ... | ... | 1 | ... |
| | | Budworth | ... | ... | ... | 2 | ... |
| | | Daresbury | ... | ... | ... | 4 | ... |
| | | Grappenhall | ... | ... | ... | 2 | ... |
| | | Hatton | ... | ... | .. | 1 | ... |
| | | Moore | .. | ... | ... | 13 | ... |
| | | Newton-by-Daresbury | ... | ... | ... | 2 | ... |
| | | Preston-o'-th'-Hill | ... | ... | ... | 3 | 1 |
| | | Sevenoaks | .. | ... | ... | 1 | ... |
| | | Stockton Heath | ... | .. | ... | 21 | ... |
| Stretton | ... | ... | ... | 1 | ... | | |
| Whitley Inferior | ... | ... | ... | 1 | ... | | |
| TOTALS ... | | | | | | 138 | 3 |

Whooping-cough.—This disease is not notifiable in the district. It has, however, been very prevalent in 1909, and has caused 3 deaths. Concurrently with measles, it led to the closing of some Infants' Schools.

Diphtheria.—This disease, although not so prevalent as in the several preceding years, has occurred in 37 cases, and caused 5 deaths.

For the purpose of comparison, a statement of cases and deaths for the last 10 years is given :—

Runcorn Rural District.

| | |
|------------------------------|------------------------------|
| In 1908, 44 cases, 6 deaths. | In 1903, 27 cases, 2 deaths. |
| „ 1907, 79 „ 13 „ | „ 1902, 35 „ 7 „ |
| „ 1906, 84 „ 3 „ | „ 1901, 44 „ 8 „ |
| „ 1905, 49 „ 5 „ | „ 1900, 17 „ 6 „ |
| „ 1904, 50 „ 8 „ | „ 1899, 37 „ 2 „ |

Or an average of 46.6 cases, with 6.0 deaths, for the preceding 10 years. The number both of cases and deaths is very near the average.

It is to be hoped that the diminution of this disease as compared with previous years, will be maintained. No special insanitary conditions were present to account for it, and school infection appeared to play a prominent part in the principal outbreaks. Most of the cases were distinctly specific, with diphtheritic membrane, and the ordinary accompaniments.

Anti-diphtheritic serum is supplied, free of cost, for poor patients, on application to the Medical Officer of Health, but has not been greatly resorted to in the past year, probably because it is now so much easier to obtain than formerly.

Croup.—No cases were reported.

Typhus Fever.—No cases occurred.

Typhoid Fever.—Only four cases of this disease were notified during 1909, one death occurring. This is distinctly satisfactory.

For purposes of comparison, a Table showing the number of cases and deaths for the preceding 10 years is given :—

| | |
|-----------------------------|----------------------------|
| In 1908, 10 cases 0 deaths. | In 1903, 1 cases 0 deaths. |
| „ 1907, 6 „ 0 „ | „ 1902, 13 „ 4 „ |
| „ 1906, 16 „ 6 „ | „ 1901, 27 „ 4 „ |
| „ 1905, 17 „ 3 „ | „ 1900, 15 „ 4 „ |
| „ 1904, 10 „ 3 „ | „ 1899, 14 „ 3 „ |

Or an average of 12.9 cases, with 2.7 deaths, during the preceding ten years.

The various cases occurred in the following Townships: Helsby 1; Halton 1; Moore 1; Stretton 1.

Runcorn Rural District.

Other Continued Fevers.—No cases were notified.

Epidemic Influenza.—Six deaths were registered as having occurred from this disease.

It was much in evidence, and, in several places, contributed to the necessity for the closing of schools in conjunction with measles and mumps.

Diarrhœa.—Only one death occurred from diarrhœal diseases. This is the lowest number of deaths from these diseases ever occurring in this district.

Enteritis.—One death occurred.

Puerperal Fever.—Only one case of this disease was notified, and terminated in recovery. The usual action was taken in regard to the midwife, who with her bag and appliances, was disinfected at the Isolation Hospital, Dutton.

Erysipelas.—Eighteen cases were notified; no deaths occurred.

Anthrax.—No cases in human beings occurred, and the cases in cattle, which were notified by the Police Authorities, were dealt with in accordance with Police Regulations, and certified as having been so dealt with.

Isolation Hospital.—The Isolation Hospital at Dutton has been working at full strength during the year. It is a question for this Council to consider,—to bring the accommodation of the hospital up to the requirements defined by the Local Government Board and the County Council,—and which were included in the original scheme. The failure of the hospital in 1909 to accommodate patients desiring admission is quite opposed to the general good feeling of the Council on behalf of the interests of the Public Health, and a reasonable extension of the present accommodation up to the standard suggested will involve an outlay, slight in comparison with its possible benefits and great utility to the population concerned.

Water-supplies.—For a rural area, the district is exceptionally well supplied from excellent public sources, derived

Runcorn Rural District.

partly from adjoining urban supplies, also from water works constructed within the district.

These sources are five in number and are distributed over the forty townships approximately, as follows :—

(a) The Liverpool Vyrnwy Water Scheme supplies at present the township of Sutton, and a portion of Aston, so much of Dutton as is available, including the Isolation Hospital, also portions of Preston Brook.

(b) The Warrington Corporation Water Works has extended its mains into the district so far as to supply the whole of Stockton Heath ; Walton Inferior, with the exception of a very few houses ; Walton Superior, Moore, a large portion of Acton Grange, the larger portion of Daresbury, Latchford Without, Thelwall, and a portion of Grappenhall : the remaining portion of Grappenhall is supplied by a private water works, belonging to the principal owner and erected at his own expense.

(c) The Frodsham and Frodsham Lordship Water Works supplies Frodsham and Frodsham Lordship, the latter township including the hamlets of Overton, Five Crosses, Bradley, Netherton, and Woodhouses.

(d) The Helsby and District Water Company supply Helsby and Alvanley.

(e) The Runcorn Urban District Council afford an excellent water-supply to the Townships of Weston, Halton, and adjoining townships, through their adoption of the Liverpool Vyrnwy water scheme. Thus, the most important and populous portions of the district are supplied with excellent public water, while the absolutely rural localities are called upon to depend on the individual local water supplies chiefly derived from the casual pump or well.

The Public Health Acts Amendment Act, 1907.—

Under an Order of the Local Government Board, the under-mentioned provisions will, on the 13th of this month, be in force in the whole or portions of the Council's area, as follows :—

FOR THE WHOLE AREA OF THE COUNCIL.

- Part IV. The whole, except Section 61.
- Part V. The whole.
- Part X. Section 95.

Runcorn Rural District.

WITHIN THE PARISHES OF FRODSHAM, HELSBY, STOCKTON
HEATH, AND WALTON INFERIOR.

Part II. The whole, except Sections 18, 19 and 26.

Part III. The whole, except Sections 48, 50 and 51.

WITHIN THE PARISHES OF GRAPPENHALL, APPLETON AND
LATCHFORD WITHOUT.

Part II. The whole, except Sections 18, 19 and 26.

Part. III. The whole, except Sections 39, 40, 41, 42, 48,
50 and 51.

WITHIN THE PARISHES OF FRODSHAM LORDSHIP,
HALTON AND WESTON.

Part II. The whole, except Sections 18, 19, 21 and 26.

Part III. The whole, except Sections 47, 48, 50 and 51.

The following extracts relating to certain Townships, &c.,
may be of interest :—

RUNCORN SUB-DISTRICT.

ASTON AND ASTON GRANGE.

The water-supply to Aston Heath, Aston, is still indifferent
and insufficient.

CLIFTON.

Some better system for dealing with the sewage from the
Rocksavage portion of the Parish, (which contains 34 houses)
should be provided, and this question is under consideration.

HALTON.

The Sewerage Works are approaching completion.

WESTON.

Progress is being made with regard to the question of
dealing with night soil and house refuse. Some good work has
been effected at Weston Point under the Private Street Works
Act.

FRODSHAM SUB-DISTRICT.

ALVANLEY.

The question of an improved water-supply to this parish
has not yet been considered.

Runcorn Rural District.

FRODSHAM.

The work of carrying out the alteration of the sewer out-fall is nearing completion.

NORLEY.

Only a few houses on the lines of water mains remain unconnected therewith.

BUDWORTH SUB-DISTRICT.

GRAPPENHALL.

A sewerage scheme is being propounded for this parish.

HATTON.

Water mains have been extended to the village portion of this parish, a distinctly needed improvement.

MOORE.

Dr. Adams is not aware of any action having been undertaken in reference to complaints concerning sewerage arrangements.

STOCKTON HEATH.

Considerable extensions of residential property, and laying down of new streets, have taken place.

Sanitary Inspector's Report.—Summary.—Statement of the Inspector of Nuisances, &c., of sanitary work done, and action taken by him relating to other matters during the year ending December 31st, 1909.

UNDER THE PUBLIC HEALTH ACT, 1875, AND OTHER ACTS.

| | |
|---|------|
| Total number of reports by Inspector to District Council | 78 |
| „ „ reports to District Medical Officer of Health | 4 |
| „ „ reports to County Medical Officer of Health | 7 |
| „ „ occupied houses supplied with water from water mains | 11 |
| „ „ occupied houses supplied with water from water mains during the past 24 years | 1213 |
| „ „ public pumps repaired | 1 |
| „ „ public wells improved | 1 |
| „ „ private „ „ „ „ „ „ | 1 |
| „ „ rooms disinfected including 6 schools .. | 177 |

Runcorn Rural District.

| | |
|--|----|
| Total number of lots of bedding removed and put through disinfector | 50 |
| " " drainage connections to sewers ... | 6 |
| " " road-drain inlets trapped .. | 4 |
| " " sewage drainage to dwelling-houses improved | 12 |
| " " drainage to Farm-premises improved ... | 1 |
| " " overcrowding of houses abated ... | 3 |
| " " improvements of ventilation to houses .. | 10 |
| " " privies with roofed ashpits converted into water closets... .. | 7 |
| " " privies with open ashpits improved ... | 2 |
| " " cesspool privies put upon the pail system | 1 |
| " " licenses granted to erect slaughter-houses | 1 |
| " " slaughter-house licenses granted ... | 1 |
| " " slaughter-house licenses renewed ... | 2 |
| " " certificates of registration for milk-selling granted | 11 |
| " " smoke nuisances abated | 1 |

PUBLIC HEALTH (WATER) ACT, 1878.

| | |
|--|----|
| Total number of Water Certificates granted by District Council during the year ending December 31st, 1909 | 7 |
| " " houses occupied under such certificates | 15 |
| " " " supplied with water from water-mains | 15 |
| " " samples of water collected and submitted to County Analyst for chemical analysis | 22 |

CANAL BOATS ACTS, 1877 AND 1884.

| | |
|--|----|
| Total number of boats inspected during the year ending December 31st, 1909, whilst passing through the District | 21 |
| " " boats conforming with Acts and Regulations made thereunder | 21 |
| " " women with boats inspected ... | 15 |
| " " children between 5 and 12 years of age | 10 |
| " " " 5 years of age and under ... | 10 |
| " " occupants of boats removed to Isolation Hospital suffering from Infectious disease | 2 |
| " " boats detained for disinfection ... | 1 |

Runcorn Rural District.

CONTAGIOUS DISEASES (ANIMALS) ACT, 1878.

DAIRIES, COWSHEDS AND MILKSHOPS ACT, 1885.

| | | |
|--|--------|-----|
| Total number of persons registered to carry on the trade of cowkeepers and dairymen during the year ending December 31st, 1909 | ... | 11 |
| „ „ persons on the register on the above-named date | | 181 |
| „ „ notices served for alterations and improvements to be made to Cowsheds | ... | 4 |

Factory and Workshops Act.—In connection with the Factory and Workshops Act, 1901, the various establishments which are within the district have called for no legal action.

The question of out-workers remains practically as set forth in last year's report ; no insanitary conditions, in reference to their habitations have been ascertained.

No underground bake-houses are to be found within the district.

TARVIN**Rural District.**

Medical Officer of Health—DR. G. A. KENYON (deceased).

Population at Census, 1901—12,614.

Population estimated to middle of 1909—12,503.

Area in acres—56,874.

Birth-rate per 1,000 living—23.3.

Death-rate per 1,000 living—13.0.

Death-rate from seven principal Zymotic Diseases—1.12.

Deaths under one year per 1,000 births—99.

Owing to the death of Dr. Kenyon, on March 6th, 1910, this Annual Report has been prepared by Dr. Vacher, late Medical Officer of Health for the County.

This large Rural District is not divided into sub-districts, but it includes 58 townships. These are as follows:—Broxton, Tilston, Horton, Grafton, Carden, Stretton, Caldecutt, Crewe, Farndon, Churton-by-Farndon, Barton, Clutton, Kingsmarsh,

Tarvin Rural District.

Coddington, Chowley, Aldersey, Harthill, Edgerley, Churton-by-Aldford, Aldford, Buer-ton, Lea Newbold, Churton Heath, Saigh-ton, Iddinshall, Waverton, Huxley, Hatton, Tattenhall, Golborne Bellow, Newton-by-Tattenhall, Handley, Golborne David, Foulk Stapleford, Bruen Stapleford, Burton, Clotton Hoofield, Dutton, Willington, Kelsall, Ashton, Mouldsworth, Horton-with Peele, Tarvin, Hockenhull, Pryors Hayes, Barrow, Guilden Sutton, Cotton Edmunds, Cotton Abbots, Rowton, Huntington, Tiverton, Tilstone Fearnall, Beeston, Burwardsley, Shocklach Church, and Shocklach Oviatt.

Population, Births, Deaths, &c.—The population of Tarvin Rural District was 12,614 at the Census in 1901, and 12,703 in the corresponding area at the Census in 1891. The decrease of the population during the decennium 1891-1901 was thus 89. The estimate of the population made for the middle of 1909 is 12,503, which is 111 lower than the Census population in 1901.

In 1909 the number of births registered was 292, and the number of deaths registered was 157. To these deaths must be added six deaths of residents which occurred outside the district. This makes the total number of 163 deaths. The birth-rate is 23.3, and the death-rate is 13.0. Of those born 144 were boys and 148 girls. Of those who died 92 were male and 71 female.

The birth-rate in 1909 was 0.8 per thousand below the birth-rate in 1899-1908. The death-rate in 1909 was 0.2 per thousand below the death-rate in 1899-1908.

There were 14 deaths due to the chief zymotic diseases, viz.:—9 measles, 3 scarlet fever, 1 whooping-cough and 1 diphtheria. There were 5 deaths from epidemic influenza, 2 to gastritis, 8 to phthisis, 8 to other forms of tubercular disease, 14 to cancer, 15 to bronchitis, 3 to pneumonia, 1 to pleurisy, 1 to alcoholism, 9 to premature birth, 3 to diseases and accidents of parturition, 15 to heart disease, 4 to accidents, and 1 to suicide.

Twenty-nine of those who died had not completed their first year. This number is equal to 99 for each 1,000 births—a fairly small proportion.

Cases of Infectious Disease Notified.—There were 23 cases notified in 1909 (the same number as in 1908) viz.:—

Tarvin Rural District.

14 cases of diphtheria, 7 of scarlet fever, 1 of enteric fever, and 1 of erysipelas. The only case removed to the hospital was one of diphtheria. Care was taken to isolate the other cases as far as possible. Each household attacked was visited and disinfection was attended to, children from infected houses were kept from School. Where required action was taken for the remedy of structural defects on the premises.

Isolation Hospital Accommodation.—The districts of Tarvin, Tarporley and Malpas have a Joint Hospital Board, which has arranged with Chester Corporation for the isolation and treatment of cases of ordinary infectious disease at the Chester Isolation Hospital.

Water-supply.—Aldford, Churton and Saighton are supplied from Wrexham Waterworks. Waverton is supplied by a well the water being raised by a windmill. The village of Ashton is supplied from springs in Delamere Forest. The work of supplying Newton-by-Tattenhall is still in hand. Beeston, Tilstone Fearnall and Tiverton are supplied from their own works. Public pumps throughout the district are kept in order by the District Council. During 1909 there were 8 wells and 9 pumps cleansed and put in order. Five dwelling-houses were freshly supplied with water.

The water-supply at Barton is working very satisfactorily.

Sewerage and Sewage Treatment.—The district being thinly populated there are few sewers and water closets are rare. The small sewerage schemes in various localities have not been successful, and some of them are still incomplete. The outfall works have hitherto been fairly successful, and one has twice required reconstruction.

Ashpits.—Throughout the district most of the houses are supplied with ashpits and privies. These in some instances are emptied at short intervals, the contents being used on adjoining land, but generally the emptying awaits the convenience of neighbouring farmers. The District Council have aimed at getting the privies modified, so as to approximate as much as possible to earth closets, and much has been done in this direction.

During the year 18 privies were repaired and 2 new ones were built.

Tarvin Rural District.

Inspector's Reports.—The district is divided for the purpose of inspection into a Northern portion for which Mr. J. Piggott is the Inspector, and a Southern portion for which Mr. W. W. Carter is the Inspector.

Mr. Piggott reports with reference to the Northern portion, that he has inspected 156 houses and premises and re-inspected 7. There were only 5 complaints of nuisance received, and notices were issued requiring abatement. Four new houses were built during the year, 4 premises were cleansed, repaired and whitewashed, and 29 houses were disinfected owing to the occurrence of infectious disease.

Mr. Carter reports that he inspected 165 premises, and reinspected 45. Eight notices were served for the abatement of nuisances, and all have been complied with. There were also 39 nuisances abated without formal notices. Other nuisances are being dealt with. Twenty-six houses have been repaired, cleansed and whitewashed, and 19 houses have been disinfected after infectious disease.

Dairies, &c.—Mr. Piggott states that he has 51 licensed dairies in his portion of the district, and Mr. Carter states that he has 22 dairies in his portion of the district. All have been regularly inspected.

Factory and Workshops Act.—In Mr. Piggott's portion of the district there are 22 factories and workshops, including bakehouses. In Mr. Carter's portion of the district there are 12 factories and workshops, including bakehouses. All these have been inspected.

Slaughter-houses.—There are 6 slaughter-houses in Mr. Piggott's portion of the district and 10 slaughter-houses in Mr. Carter's portion of the district. All these premises have been inspected.

New Houses.—Thirteen new houses were completed during 1909, 4 being in the Northern division of the district and 9 in the Southern division of the district.

Inspection.—The Medical Officer of Health has visited the district from time to time, for the investigation of cases of infectious disease, and general inspection. He has advised his Authority in points of detail with reference to these inspections.

TINTWISTLE

Rural District.

Medical Officer of Health—DR. W. E. S. BURNETT.

Population at Census, 1901—2,095.

Population estimated to middle of 1909—2,300.

Area in acres—16,175.

Birth-rate per 1,000 living—16.9.

Death-rate per 1,000 living—11.7.

Death-rate from seven principal Zymotic Diseases—0.87.

Deaths under one year per 1,000 births—102.

This Rural District contains part of the Township of Tintwistle and the whole of the Townships of Hattersley and Matley. The area is given as follows :—

| | | | | | Area in Acres. |
|--------------------|-----|-----|-----|-----|----------------|
| Part of Tintwistle | ... | ... | ... | ... | 11,856 |
| Hattersley | ... | ... | ... | ... | 1,060 |
| Matley | ... | ... | ... | ... | 705 |

The population of this Rural District was 2,576 at the Census in 1891, and 2,105 at the Census in 1901. Thus, during the decenium 1891-1901 there was a decrease in the population of 471.

This is due to the compulsory removal of a number of families from the district, owing to the small extent of work now carried on in two large cotton factories which stopped a few years ago. These unfortunate events have pauperised the once prosperous village of Tintwistle. There were 90 empty houses in the district at the time of the Census, and 81 of these were in this village. The population of Hattersley and Matley slightly increased between the Census of 1891 and the Census of 1901.

The population of the whole district has slightly decreased since the Census of 1891, owing to the departure of families from want of employment. Numerous stoppages and short-time, during the latter part of 1903, caused much poverty and distress.

Population, Births, Deaths, &c.—The population of the district slightly increased in 1907; this was owing to additional employment at the River Etherow Bleaching Company's Works in the adjoining district of Hollingworth, and to a number of houses having been built in the Matley portion of the district. The

Tintwistle Rural District.

estimate in the middle of June, 1907, was 2,300; which gives 4.2 persons to each house. The estimate to the middle of June, 1909, is the same.

During 1909, the number of births registered in the district was 39 (18 males and 21 females), equal to a birth-rate of 16.9 per 1,000 persons living, and is 4.9 below the mean birth-rate for the previous 10 years.

The number of deaths registered was 27, (nine males and 18 females), equal to a death-rate of 11.7 per 1,000 persons living, and is 2.3 below the mean death-rate, for the previous 10 years.

Infant Mortality.—Four of the deaths were infants under one year of age, equal to a death-rate of 1.7 per 1,000 persons living, and 102 per 1,000 births.

The causes of these four deaths were ascribed to atelectasis, 1; premature births, 3. One died at the age of 19 hours; one, one day; one, two days; one, 22 days.

The principal causes of deaths above one year were—heart disease, 5; bronchitis, 2; pneumonia, 3; scarlet fever, 1; tubercular diseases, 2.

Infectious Diseases.—There were 17 cases of infectious disease notified, viz.:—16, scarlet fever, and 1, erysipelas.

Measles.—Measles is not a notifiable disease, but is more frequently the cause of school closure than any other of the infectious diseases. An outbreak of both measles and mumps occurred at Crowden, in the latter part of February, and the school was closed for a fortnight. No other part of the district was infected.

Scarlet Fever.—There was an isolated case in the Matley portion of the district in March. In June, a case was reported from Woodhead Road.—This person supplied milk to the Summer Camp for poor little girls from Manchester, which was discontinued upon notice to that effect being forwarded to him. A second case occurred in the same house, and other cases kept cropping up occasionally until the end of November. The ages of most of the children infected ranged from six to 13 years, and the general character of the disease was mild. The only death was that of an infant two years of age.

Tintwistle Rural District.

Erysipelas.—One case only of this disease occurred in an old man.

Isolation Hospital.—No cases of infectious disease were admitted during the year.

Action taken to prevent the spread of Infectious Diseases.—Isolation is carried out as soon as possible, and the parents of children suffering from infectious diseases are instructed to keep all other members of the family from school, and other people's children from entering the infected house, until all risk of infection is over. Printed instructions to this effect are also forwarded immediately upon receipt of notification. Information is also given to the school masters. The premises are examined for insanitary conditions. Disinfectants are also supplied gratuitously during the illness, and the clothes and bedding subsequently disinfected by the Inspector.

Water-supply.—Tintwistle is supplied with water from a reservoir of its own, some three miles distant from the village, and is both good and plentiful. The new houses that have been erected in the Matley portion of the district, during the past 18 months, are supplied from a small reservoir in the hillside at Hurst Clough. The other portion of this, and the Hattersley district, which are principally composed of small farms, obtain their supply chiefly from springs.

Milk-supply.—There are no milkshops, the supply being retailed direct from the surrounding farms.

Slaughter-houses.—One only in the district, which is kept clean and in good order.

Cowsheds and Dairies.—Regulations under the Dairies, Cowsheds, and Milkshops Orders were made by the Council in 1901, and came into force in October of the same year.

There are 38 cowkeepers in the district. Generally speaking, the condition of the dairies and cowsheds have been found clean and in fairly good order. Most of them are visited quarterly.

In July, in company with the members of the Council, the Medical Officer of Health inspected a number of the cowsheds in the Crowden and Woodhead portion of the district, and the

Tintwistle Rural District.

following are those where sanitary defects, either in ventilation, drainage, or light, were found :—Crowden Hall ; Ash Tree Farm ; Crowden Farm , Quiet Shepherd ; The Hollins and Townhead Farm. It is the intention of the members of the Council to continue these inspections to all the other farms in the district at an early date. They also inspected the children's Summer Camp at Tintwistle, where sanitary defects were also found, and notices were subsequently served upon the owners of the farms, and the Treasurer and Landowner's Agent were interviewed, with respect to the sanitary alterations necessary at the Camp.

Factories and Workshops.—One small factory and five workshops, one workshop-bakehouse, one boot-shop, and three domestic workshops. They have been visited quarterly, and found clean, well ventilated, ample air space, and in all respects in good order, with one exception. No underground bakehouses in the district.

Inspection of the District.—The district has been periodically inspected by Dr. Burnett and the Sanitary Inspector, and where insanitary conditions have been found, notices have been served upon the owners to remedy them.

New Property.—Six new houses have been built in the Matley portion of the district, and two in Tintwistle.

Removal of Excreta and Refuse.—The disposal of excreta is chiefly with ashpit refuse—the combined privies and ashpits are emptied principally by farmers and owners of the property to which the ashpits belong, under the supervision of the Sanitary Inspector.

Report of Sanitary Inspector.—Mr. S. E. Kettlewell, the Sanitary Inspector, reports that nothing has been done to remedy the insanitary condition of the premises at the Waggon and Horses, Matley. He has also served notices to owners of property where nuisances were found when inspecting the district ; superintended the emptying of ashpits, supplied disinfectants to persons in whose houses there was infectious disease, and, after their recovery, disinfected the clothing and bedding, and made regular visits to dairies, cowsheds, slaughter-houses and workshops in the district.

WIRRAL

Rural District.

Medical Officer of Health—DR. G. A. KENYON (deceased).

Population at Census, 1901—18,099.

Population estimated to middle of 1909—17,000.

Area in acres— .

Birth-rate per 1,000 living—22.0.

Death-rate per 1,000 living—11.4.

Death-rate from seven principal Zymotic Diseases— 0.47

Deaths under one year per 1,000 births—61.

Owing to the death of Dr. Kenyon, on March 6th, 1910, this Annual Report has been prepared by Dr. Vacher, late Medical Officer of Health for the County.

On April 1st, 1902, part of this Rural District (viz. : Whitby Civil Parish) was constituted Ellesmere Port and Whitby Urban District. The area of the Rural District was thus reduced by 1,261 acres, and the census population of the reduced district was therefore 14,017, and the population was thus reduced by 4,082 persons. The census population for the middle of the year 1908 is estimated to be 16,800. This estimate is based on the number of houses built and occupied since the census.

The district has for registration purposes been divided into four sub-divisions, viz. :—Neston, Eastham, Bebington, and Woodchurch. Till quite recently the district had but three sub-districts, Brimstage, Poulton-cum-Spital, and Storeton (now constituting the sub-district of Bebington) being part of the sub-district of Eastham. Regarding Neston and Bebington as one sub-district, the sub-districts are as follows :—

- 1.—Neston, having an area of 12,113 acres, includes Burton, Gayton, Heswall-cum-Oldfield, Ness, Puddington, Raby, Thornton Hough and Willaston.
- 2.—Eastham, having an area of 10,840 acres, includes Childer Thornton, Eastham, Great Sutton, Hooton, Ledsham, Little Sutton, Netherpool, Overpool, Brimstage, Poulton-cum-Spital, and Storeton.
- 3.—Woodchurch, having an area of 12,598 acres, includes Arrowe, Barnston, Caldy, Frankby, Grange (part of),

Wirral Rural District.

Greasby, Irby, Landican, Moreton, Pensby, Prenton, Saughall Massie, Thingwall, Thurstaston, Upton-by-Birkenhead, and Woodchurch.

To the Rural District, as thus constituted, must be added what has been till lately the Rural District of Birkenhead. This consists of Bidston-cum-Ford, having an area of 1,713 acres, and Noctorum, having an area of 330 acres.

Population.—The population of this Rural District was 18,629 at the census of 1891, and 18,099 at the census 1901. The decrease in the population during the decennium 1891-1901 was thus 530, that is 2.8 per cent. The decrease is due to the fact that among those enumerated in 1891 at Whitby, Netherpool, Hooton, and Eastham were 2,432 persons engaged in the construction of the Manchester Ship Canal, who formed no part of the local population after 1902. The normal population of Wirral was therefore considerably increased between 1891 and 1901.

Births, Deaths, &c.—The number of births registered in 1909 in Wirral Rural District was 374, and the number of deaths registered in 1909 in Wirral Rural District was 195. Thirty-seven of these deaths were of persons who did not belong to the District. However, there were 14 deaths of residents, which occurred elsewhere. Thus the number of deaths belonging to the District in 1909 was 172. There were eight deaths from the chief zymotic diseases, viz, two whooping-cough, five diphtheria, and one diarrhœa.

Cases of Infectious Disease Notified.—There were 58 cases of infectious disease notified, viz: 21 cases of diphtheria, 30 cases of scarlet fever, and seven cases of erysipelas. Of these, 12 cases of diphtheria and 18 cases of scarlet fever were removed to the Isolation Hospital at Spital. The remaining cases were isolated at home.

Action taken to prevent spread of Infection.—All the houses at which infectious disease occurred were visited, and removal of cases to Hospital was effected where practicable. The disinfection of premises, clothing, &c., was attended to, and all disinfectants were supplied. Ordinarily, children from infected houses were kept from School for longer or shorter periods. Steps were promptly taken to remedy any insanitary conditions discovered. Dirty walls were scraped and whitewashed. Infected bedding and clothing were dealt with at the disinfecting apparatus.

Wirral Rural District.

Isolation Hospital Accommodation.—This is provided by the Joint Hospital Board. It consists of the Spital Hospital and the Greasby Hospital, both of which are situated in the district. The Spital Hospital was much enlarged and improved in 1902. Two large wards furnished with eight beds each, and two isolation rooms, each furnished with two beds, together with kitchen and lavatories were built, forming an additional provision of some importance. Three bedrooms and a lavatory were also added to the administrative block. The laundry was enlarged and better equipped. In order to effect this Hospital extension, two acres of land were acquired.

Disinfecting Apparatus and Destructor.—A new disinfecting apparatus and destructor were also provided in 1902.

Hospital Ambulances, &c.—Two ambulances are in use for the conveyance of patients to hospital.

Two covered vans were provided in 1903. They are regularly used for the carriage of bedding, &c. to the disinfecting apparatus and the return of the same to the owners.

Hospital Out-fall Works.—The Dibdin filter beds at the Isolation Hospital continue to work satisfactorily.

An Auxiliary Hospital.—In order to make more efficient arrangements for the isolation and treatment of small-pox cases, a large plot of land, with a house upon it, at Pensby, was purchased in 1904. The house has since been made use of as an auxiliary to Spital hospital. Scarlet fever convalescents have been sent to Pensby, and thus more room has been made for new cases. Doubtless the Pensby site will eventually be used for a small-pox hospital.

Inspection.—The Medical Officer of Health has frequently made general and special visits of inspection, and investigated outbreaks of infectious disease. In connection with these inspections he has advised the District Council on various points of detail.

Water-supply.—The District is generally supplied with water from the West Cheshire Waterworks. Bidston-cum-Ford and Nocton are supplied from Birkenhead, and Moreton and Saughall Massey from the West Kirby Waterworks.

Wirral Rural District.

The West Cheshire water has of late become unduly hard, which causes great inconvenience from the filling up of boiler pipes, and the unsuitability of such water for laundry work.

The District is traversed by a large pipe carrying water from Vyrnwy to Wallasey. No houses in Wirral are now supplied from this.

A few out-lying places, such as Irby, Mill Hill, and some cottages between Higher Bebington and Brimstage, have no proper supplies.

Building Bye-laws are in force throughout the district.

Factory and Workshops Act.—There are 14 workshops in the district, and 33 inspections were made during 1909.

Sewerage.—Modern sewers with suitable out-fall works have been provided in Willaston, Gayton, Childer Thornton, Hooton, Eastham, Heswall, Great Sutton, Little Sutton, Caldy, Poolton-eum-Spital (part), Grange-with-Newton (part), Prenton, Noctorum, Upton, Bidston, and Moreton. The following have out-fall sewers accessible when modern sewerage becomes necessary, and, meanwhile, are drained in various ways sufficient for present purposes :—Overpool, Netherpool, Woodchurch, Arrowe, Landican, Thingwall, Storeton, Barnston and Pensby. The following will be provided with modern sewers when required :—Puddington, Burton, Ledsham, Ness, Raby, Irby, Thurstaston, Frankby, Greasby, Newton (part), Saughall Massey, and Brimstage. A scheme for the drainage of Thornton Hough has been approved, and land is to be obtained by Provisional Order.

The sewered townships have approximately two-thirds of the area of the whole district, and four-fifths of the population.

Factories and Workshops.—There are 14 workshops in this Rural District, and of these 33 inspections were made during 1909, but no defects were discovered and no notices in consequence were served.

Sewerage and Water-supply.—The following is the text of a Special Report presented on March 25th, 1909, to the Wirral Rural District Council, by the late Dr. G. A. Kenyon :—

Wirral Rural District.

GENTLEMEN,

In response to the request of the Local Government Board, I have to report on the nature and sufficiency of the sewerage and water-supply of each of the contributory places in the Rural District of Wirral, as follows :—

After the name of each township I give the population in 1891, and next the population in 1901, and next the acreage of the township, to give some clue to the progressive character of the township, or otherwise in the matter of population and presumable need for sewerage. There has, however, been considerable increase since 1901 in many of the places

(1). The undermentioned townships have been provided in recent years with modern sewers and suitable outfalls :—

| | Population | | Acreage | |
|-------------------------------|------------|---------|---------|--------------------------------------|
| | 1891 | 1901 | | |
| Willaston | 592... | 597... | 1994... | Septic Tanks and Bacteria Beds. |
| Gayton | 199... | 180... | 707... | Ditto. |
| Childer Thornton | 743... | 685... | 746... | Ditto. |
| Hooton | 281... | 200... | 1194... | Ditto. |
| Eastham (part) ... | 881... | 913... | 1608... | Ditto. |
| Heswall | 1210. | 2167... | 1330... | Direct to Tidal Water. |
| Eastham (part) ... | | | | Ditto. |
| Great Sutton..... | 395... | 397... | 1151... | Ditto. |
| Little Sutton..... | 1094. | 1109... | 1130... | Ditto. |
| Caldy | 170... | 202... | 754... | Ditto. |
| Poulton-cum-Spital (part) ... | 411... | 487... | 856... | Ditto, through L. Bebington Sewers. |
| Grange-with-Newton (part) | 156.. | 299... | 1388... | Ditto, through Hoylake Sewers. |
| Prenton | 267... | 412... | 640... | Through Fender Valley Outfall Sewer. |
| Noctorum | 202... | 212... | 330... | Ditto. |
| Upton | 687... | 788... | 943... | Ditto. |
| Bidston | 254... | 465 .. | 1713... | Ditto. |
| Moreton | 444... | 597... | 1202... | Ditto. |

Wirral Rural District.

(2). The following have outfall sewers accessible when modern sewerage becomes necessary, and meanwhile are drained in various ways sufficient for present purposes :—

| | Population | | Acreage | |
|------------------|------------|--------|---------|------------------------------------|
| | 1891 | 1901 | | |
| Overpool..... | 112... | 91... | 463... | Accessible to Little Sutton Sewer. |
| Netherpool..... | 25... | 21... | 477... | Ditto. |
| Woodehurch | 129... | 140... | 338... | Accessible to Fender Valley Sewer. |
| Arrowe | 128... | 121... | 758... | Ditto. |
| Landican | 76... | 71... | 626... | Ditto. |
| Thingwall | 173... | 156... | 377... | Ditto. |
| Storeton..... | 256... | 263... | 1372... | Ditto. |
| Barnston | 404... | 522... | 1108... | Ditto. |
| Pensby | 51... | 48... | 354... | Ditto. |

(3). The following are drained in various ways sufficient for present purposes, and will be provided with modern sewers when required :—

| | Population | | Acreage. |
|-----------------------|------------|------|----------|
| | 1891 | 1901 | |
| Puddington... | ... | ... | 1391 |
| Burton | ... | ... | 1963 |
| Ledsham | ... | ... | 825 |
| Ness | ... | ... | 1434 |
| Raby | ... | ... | 1758 |
| Irby | ... | ... | 842 |
| Thurstaston | ... | ... | 946 |
| Frankby | ... | ... | 571 |
| Greasby | ... | ... | 809 |
| Newton (part) | ... | ... | |
| Saughall Massey | ... | ... | 942 |
| Brimstage | ... | ... | 1019 |

A scheme is in hand for the sewerage of Thornton Hough (population in 1891, 487, in 1901, 547; acreage 1536), and action is being taken to obtain land by provisional order.

The Workhouse and Fever Hospital drainage is dealt with on bacteria beds.

Wirral Rural District.

As regards water-supply, the whole of the district is supplied with water from the mains of the different waterworks. The only exceptions are a few outlying places such as Iby Mill Hill, and some cottages between Higher Bebington and Brimstage.

Reverting to the sewerage, the 1901 population of the sewered townships is 9,710; of those provided with outfall only 1,433; taken together 11,143; the total 1901 population of the present Wirral district being 14,017; the population of the unsewered townships is therefore 2,874. The area of the sewered townships is 17,646 acres, of the townships with outfall only 5,872, together 23,518, out of 37,594, the total area of the district, and therefore 14,076 is the area of the unsewered townships. So that the sewered townships have approximately two-thirds of the area of the whole district and four-fifths of the population. And the wholly unsewered third of the area has a relatively sparse population.

I am, Gentlemen,
Your obedient Servant,
GEO. A. KENYON,
Medical Officer of Health

Chester, March 25th, 1909.

Administrative County of Chester.

APPENDIX OF STATISTICS FOR 1909.

TABLE I.—Population, Area, Births, Deaths, &c.—

Showing enumerated and estimated population, area, persons per acre, births and deaths, birth-rates, and death-rates, proportion of deaths of infants to births, deaths from seven principal zymotic diseases, and corresponding death-rates.

TABLE II.—Mortality—

Showing deaths from certain causes, classified according to Diseases, Ages, and Localities.

TABLE III.—Infectious Disease—

Showing new cases notified and new cases removed to Hospital classified according to Diseases and Localities, and giving particulars as to Isolation Hospital provision.

NOTE.—The information in these Tables is derived from the returns made by the District Medical Officers of Health on Forms supplied to them by the Local Government Board. The proportion of persons per acre, the deaths from the seven principal zymotic diseases, and corresponding death rates, have been added. The population in 1901, and the areas, are from the full Report of the Census of the County of Chester, the summary to which is dated August 10th, 1902.

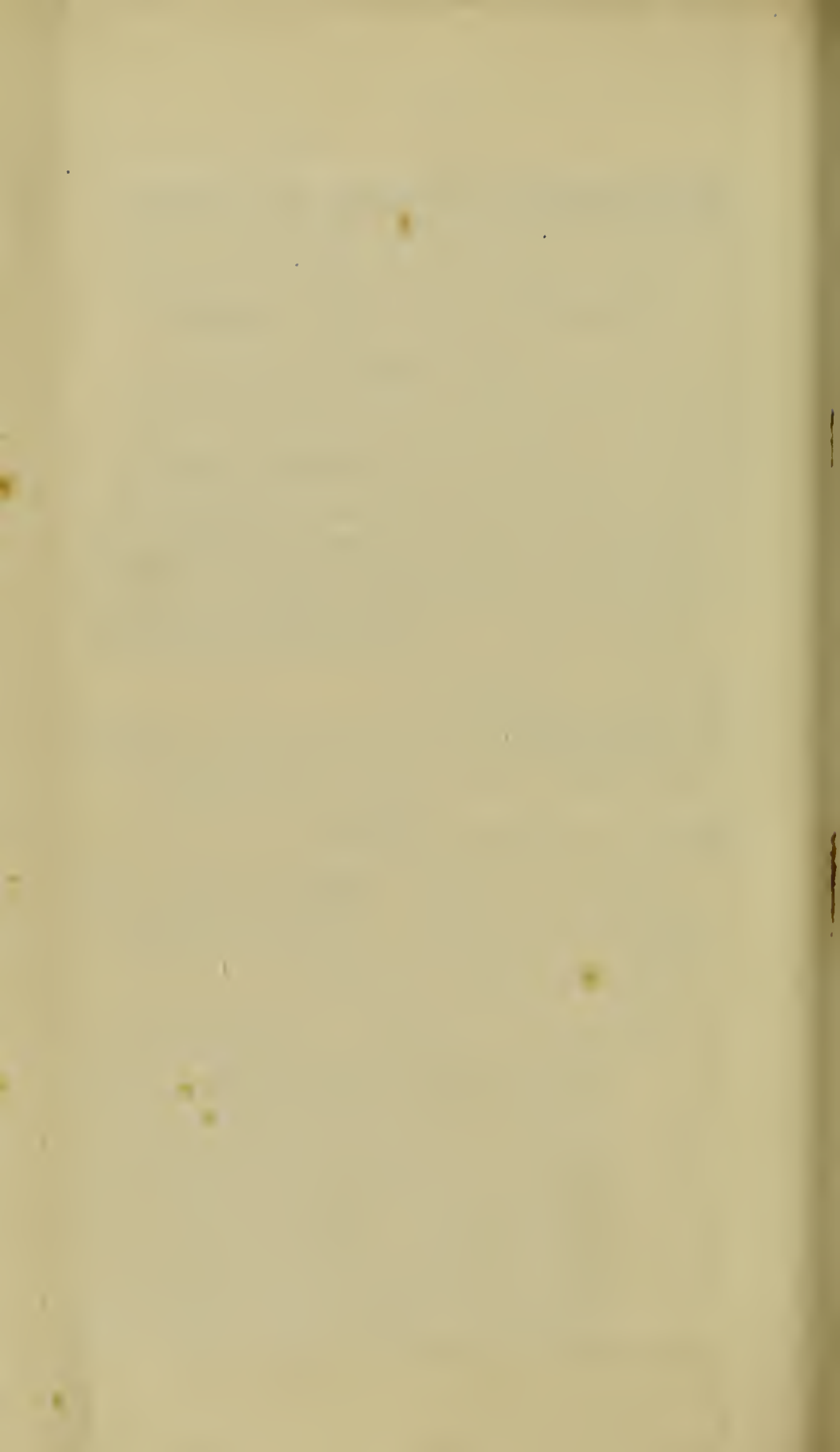


TABLE I. STATEMENT

prepared from the Reports of Medical Officers of Health of Sanitary Districts in the Administrative County of Chester,
for the year ending 31st December, 1909.

| SANITARY DISTRICTS | Population at Census, 1901. | Estimated Population in middle of 1909. | Area in Acres. | Persons to an Acre. | Births. | Birth- rate per 1000 Living. | Deaths. | Death- rate per 1000 Living. | Deaths from | | | | | | | Deaths from Principal Zymotic Diseases. | Principal Zymotic Diseases Death-rate. | Death under one year. | Deaths under one Year to 1000 Births. | Is Hospital for Infectious Diseases provided ? | Name of Medical Officer of Health. | |
|--------------------------|--------------------------------|--|----------------------|---------------------------|---------|--|---------|--|-------------|----------|------------|-------------|--------------------|--------|------------|--|---|--------------------------------|---|---|---------------------------------------|-------------------|
| | | | | | | | | | Small-pox. | Measles. | Scarlatina | Diphtheria. | Whooping Cough. | Fever. | Diarrhoea. | | | | | | | |
| Column Number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | |
| MUNICIPAL BOROUGHES. | | | | | | | | | | | | | | | | | | | | | | |
| Congleton | 10707 | 10707 | 2572 | 4.16 | 278 | 25.9 | 183 | 17.09 | | | 1 | | | | 6 | 10 | 0.9 | 30 | 107 | Yes. | Dr. P. M. Davidson. | |
| Crewe | 42074 | 46384 | 2185 | 22.23 | 1120 | 28.05 | 582 | 11.9 | | | | 7 | 4 | 2 | 14 | 28 | 0.7 | 117 | 104 | Yes. | Dr. G. G. Buckley. | |
| Dukinfield | 18929 | 20500 | 1405 | 14.59 | 491 | 23.9 | 332 | 16.19 | | 8 | 2 | 2 | 1 | 6 | 5 | 24 | 1.17 | 17 | 157 | Yes. | Dr. J. R. S. Park. | |
| Hyde | 32766 | 34669 | 8081 | 11.25 | 721 | 20.79 | 507 | 14.02 | | 12 | 2 | 2 | 1 | 5 | 7 | 29 | 0.83 | 106 | 147 | Yes. | Dr. J. Bennett. | |
| Macclesfield | 34624 | 34624 | 3214 | 10.8 | 722 | 20.8 | 544 | 15.7 | | 4 | 1 | 3 | | 3 | 5 | 16 | 0.4 | 80 | 110 | Yes. | Dr. J. H. Marsh. | |
| Stalybridge | 27673 | 29040 | 3130 | 9.27 | 595 | 20.5 | 461 | 15.87 | | 7 | 3 | | | 2 | 3 | 15 | 0.5 | 87 | 146 | Yes. | Dr. W. J. Hancock | |
| | 166773 | 178124 | 16587 | 11.42 | 3927 | 22.6 | 2609 | 14.64 | | 32 | 9 | 11 | 7 | 20 | 40 | 122 | 7.1 | 497 | 126.55 | | | |
| OTHER URBAN DISTRICTS. | | | | | | | | | | | | | | | | | | | | | | |
| Alderley Edge | 2856 | 3130 | 599 | 5.22 | 59 | 18.8 | 38 | 12.1 | | | | 1 | | | | 1 | 0.31 | 7 | 118 | Yes. | Dr. G. W. Dowling. | |
| Alsager | 2597 | 2850 | 2241 | 1.27 | 56 | 19.6 | 35 | 12.37 | | | | | | | 1 | 1 | 0.35 | 5 | 89 | Yes. | Dr. H. F. Kingston. | |
| Altrincham | 16831 | 18652 | 662 | 28.17 | 445 | 23.8 | 263 | 13.5 | | 4 | 1 | | | | 2 | 7 | 0.3 | 43 | 96 | Yes. | Dr. A. Golland | |
| Ashton-upon-Mersey | 5563 | 6563 | 1622 | 4.04 | 142 | 21.8 | 90 | 13.0 | | 4 | | 3 | 1 | | | 8 | 1.8 | 7 | 49 | Yes. | Dr. C. J. Renshaw. | |
| Higher Bebington | 1540 | 1636 | 699 | 2.34 | 63 | 35.4 | 17 | 10.4 | | | | | | | 1 | 1 | 0.61 | 3 | 51 | Yes. | Dr. G. A. Kenyon. | |
| Lower Bebington | 8398 | 11942 | 1051 | 11.36 | 297 | 24.8 | 118 | 9.8 | | | | | | | 1 | 2 | 0.08 | 30 | 101 | Yes. | Dr. G. A. Kenyon. | |
| Bollington | 5245 | 6245 | 1291 | 4.06 | 104 | 19.8 | 56 | 10.6 | | | | | | | | | | 8 | 77 | Yes. | Dr. G. A. Kenyon. | |
| Bowdon | 2788 | 2360 | 850 | 3.36 | 32 | 11.2 | 36 | 12.6 | | | | | | | | | | 1 | 31 | Yes. | Dr. D. W. Main. | |
| Bredbury and Romiley | 7185 | 9006 | 3986 | 2.3 | 206 | 22.0 | 110 | 12.2 | | 1 | 1 | 1 | | 1 | 4 | | 0.44 | 17 | 82 | Yes. | Dr. M. Duggan. | |
| Bromborough | 1891 | 2075 | 1678 | 1.23 | 44 | 21.2 | 24 | 11.1 | | | | | | 1 | 1 | 2 | 0.9 | 2 | 45 | Yes. | Dr. F. Cant. | |
| Buglawton | 1452 | 1452 | 2911 | 0.49 | 41 | 28.2 | 27 | 18.5 | | 2 | | | | | | 2 | 1.37 | 4 | 97 | Yes. | Dr. G. A. Kenyon | |
| Cheadle and Gatley | 7916 | 10100 | 6086 | 1.98 | 187 | 20.38 | 70 | 7.63 | | | | | | | | 4 | 0.43 | 13 | 69 | Yes. | Dr. P. M. Davidson. | |
| Compstall | 875 | 850 | 903 | 0.98 | 22 | 24.0 | 13 | 14.6 | | | | | | | | | 1 | 1.12 | 1 | 45 | Yes. | Dr. J. H. Godson. |
| Ellesmere Port & Whitby | 4082 | 7328 | 1261 | 5.81 | 302 | 41.2 | 106 | 14.5 | | 14 | 2 | | 4 | | 1 | 21 | 2.86 | 42 | 140 | Yes. | Dr. C. H. Hibbert. | |
| Hale | 4562 | 8546 | 1288 | 6.63 | 125 | 14.63 | 52 | 6.08 | | | | | | | | | | 8 | 61 | Yes. | Dr. G. A. Kenyon. | |
| Handforth | 911 | 949 | 1812 | 0.72 | 19 | 20.02 | 12 | 12.7 | | | | | | | | | | 1 | 53 | No. | Dr. T. A. Rothwell | |
| Hazel Grove and Bramhall | 7934 | 10656 | 5488 | 1.94 | 190 | 17.8 | 102 | 9.5 | | | | 2 | | | | 2 | 0.18 | 15 | 78 | Yes. | Dr. A. Nowell. | |
| Hollingworth | 2447 | 2980 | 2086 | 1.42 | 52 | 17.4 | 33 | 11.0 | | 1 | | | | | 1 | 2 | 0.3 | 3 | 57 | Yes. | Dr. Thos. Moore. | |
| Hoole | 5341 | 6378 | 834 | 19.09 | 145 | 25.08 | 52 | 8.9 | | | 2 | 1 | 1 | | | 4 | 0.62 | 10 | 69 | Yes. | Dr. W. E. S. Burnett. | |
| Hoylake and West Kirby | 10911 | 14403 | 2066 | 6.97 | 267 | 18.5 | 166 | 11.5 | | 1 | 1 | 2 | 1 | 1 | 2 | 8 | 0.55 | 22 | 82 | Yes. | Dr. F. J. Butt. | |
| Knottsford | 5172 | 5686 | 1760 | 3.23 | 114 | 20.1 | 63 | 11.1 | | | | | | | | | | 11 | 96 | Yes. | Dr. G. A. Kenyon. | |
| Lymm | 4707 | 4980 | 4372 | 1.13 | 125 | 25.1 | 60 | 12.0 | | | | | | | | | | 9 | 72 | Yes. | Dr. T. W. H. Garstang. | |
| Marple | 5595 | 5800 | 8054 | 1.89 | 125 | 21.05 | 82 | 14.0 | | | 1 | | | 1 | 2 | | 0.34 | 9 | 73 | Yes. | Dr. E. M. De Jong. | |
| Middlewich | 4669 | 4980 | 1082 | 4.57 | 161 | 32.3 | 78 | 15.7 | | 2 | 1 | 1 | | | 1 | 5 | 1.0 | 25 | 155 | Yes. | Dr. H. Burton. | |
| Mottram | 3128 | 3200 | 1084 | 2.95 | 55 | 17.1 | 47 | 14.6 | | | 2 | 1 | | | | 3 | 0.9 | 8 | 145 | Yes. | Dr. T. W. H. Garstang. | |
| Nantwich | 7722 | 7962 | 703 | 11.28 | 185 | 28.2 | 127 | 15.9 | | 5 | | 1 | 1 | | 7 | 14 | 1.7 | 30 | 162 | Yes. | Dr. W. E. S. Burnett. | |
| Neston and Parkgate | 4154 | 4618 | 8267 | 1.41 | 107 | 23.2 | 57 | 12.3 | | | | | | | 1 | 1 | 0.21 | 6 | 66 | Yes. | Dr. J. D. Munro. | |
| Northwich | 17611 | 19900 | 1397 | 14.24 | 484 | 24.2 | 245 | 12.3 | | | | | | 1 | 4 | 10 | 0.50 | 50 | 101 | Yes. | Dr. G. A. Kenyon. | |
| Runcorn | 16491 | 18000 | 1275 | 14.11 | 481 | 26.7 | 258 | 14.0 | | | 3 | 1 | | 9 | 2 | 15 | 0.83 | 75 | 156 | Yes. | Dr. H. E. Gough. | |
| Sale | 12088 | 16000 | 2006 | 7.97 | 365 | 22.8 | 193 | 12.0 | | 9 | 1 | 3 | 1 | | 1 | 15 | 1.0 | 39 | 107 | Yes. | Dr. F. McDougall. | |
| Sandbach | 5558 | 5556 | 2694 | 2.06 | 152 | 27.3 | 69 | 12.4 | | | | | | | 1 | 1 | 0.17 | 12 | 79 | Yes. | Dr. O. Withers. | |
| Tarporley | 2644 | 2600 | 6195 | 0.41 | 83 | 24.2 | 33 | 12.7 | | | | | | 1 | | | 0.38 | 9 | 142 | No. | Dr. R. Riddell. | |
| Wallasey | 53579 | 73000 | 3949 | 21.85 | 1838 | 25.1 | 885 | 12.0 | | 13 | 20 | 9 | | 2 | 6 | 50 | 0.68 | 148 | 80 | Yes. | Dr. G. A. Kenyon. | |
| Wilmslow | 7361 | 8300 | 5090 | 1.63 | 158 | 19.0 | 97 | 11.6 | | 6 | | | | | 1 | 8 | 0.96 | 8 | 50 | Yes. | Dr. T. W. Naylor Barlow. | |
| Winsford | 10382 | 10656 | 5780 | 1.80 | 269 | 25.5 | 142 | 13.3 | | | 8 | 4 | | | 3 | 15 | 1.4 | 31 | 115 | Yes. | Dr. A. Byers. | |
| Yesdsley-cum-Whaley | 1487 | 1634 | 1823 | 1.23 | 41 | 25.0 | 12 | 7.3 | | | | 1 | | | | | 0.61 | 2 | 49 | Yes. | Dr. T. W. H. Garstang. | |
| | 263673 | 320618 | 81805 | 9.91 | 7514 | 23.4 | 3853 | 12.01 | | 62 | 48 | 30 | 17 | 17 | 37 | 211 | 0.66 | 714 | 95 | | Hyde Corporation and Hyde Peak. | |
| RURAL DISTRICTS. | | | | | | | | | | | | | | | | | | | | | | |
| Bucklow | 19890 | 22210 | 57661 | 0.38 | 423 | 18.9 | 259 | 11.6 | | 1 | 4 | | | | 3 | 8 | 0.3 | 28 | 66 | Yes. | Dr. T. W. H. Garstang | |
| Chester | 10989 | 11958 | 35517 | 0.33 | 261 | 22.0 | 162 | 13.5 | | 2 | 4 | 8 | 1 | | 15 | 1.25 | 23 | 87 | Yes. | Dr. G. A. Kenyon. | | |
| Congleton | 12220 | 12220 | 40152 | 0.30 | 328 | 26.4 | 164 | 13.4 | | 5 | | 3 | 3 | | 2 | 13 | 1.06 | 21 | 64 | Yes. | Dr. C. H. Wentworth-Bennett | |
| Disley | 2827 | 3407 | 2466 | 1.38 | 55 | 16.4 | 35 | 10.2 | | | | | | | | | 0.58 | 4 | 73 | Yes. | Dr. C. J. Bennet. | |
| Macclesfield | 15776 | 16798 | 79572 | 0.21 | 327 | 19.6 | 189 | 11.25 | | 4 | 1 | | | | | 5 | 0.17 | 19 | 58 | Yes. | Dr. C. C. Rushton. | |
| Malpas | 4488 | 430 | 21406 | 0.20 | 165 | 23.9 | 54 | 12.3 | | | | | | | | 1 | 0.25 | 7 | 66 | Yes. | Dr. G. A. Kenyon. | |
| Nantwich | 23197 | 24820 | 98466 | 0.24 | 583 | 23.5 | 335 | 13.8 | | 1 | 2 | 3 | 3 | | 4 | 13 | 1.07 | 52 | 89 | Yes. | Dr. R. T. Turner. | |
| Northwich | 22078 | 24660 | 54310 | 0.45 | 546 | 22.1 | 276 | 11.1 | | | 4 | 2 | 1 | | 2 | 9 | 0.48 | 43 | 78 | Yes. | Small-pox Hospital separate. | |
| Runcorn | 23244 | 26721 | 49169 | 0.52 | 691 | 26.8 | 306 | 11.9 | | 3 | 3 | 5 | 3 | 1 | 1 | 16 | 0.62 | 50 | 72 | Yes. | Northwich Joint and Leftwich. | |
| Tarvin | 12614 | 12508 | 56874 | 0.21 | 292 | 23.3 | 163 | 13.0 | | 9 | 3 | 1 | 1 | | | 14 | 1.12 | 29 | 99 | Yes. | Dutton. Small-pox Hospital at Moore. | |
| Tintwistle | 2105 | 2800 | 18621 | 0.17 | 39 | 16.9 | 27 | 11.7 | | | | | | | 1 | 2 | 0.87 | 4 | 102 | No. | Chester Isolation Hospital used. | |
| Wirral | 14017 | 17000 | 37594 | 0.45 | 374 | 22.0 | 172 | 10.1 | | | | 5 | 2 | | 1 | 8 | 0.47 | 23 | 61 | Yes. | Mottram Moor. | |
| | 163439 | 177477 | 546788 | 0.32 | 4027 | 22.0 | 2142 | 12.06 | | 25 | 22 | 27 | 16 | 2 | 14 | 106 | 0.58 | 303 | 75.4 | | Wirral Joint Hospitals. | |
| Administrative County | 506071 | 670214 | 641180 | 1.04 | 15408 | 22.8 | 8604 | 12.72 | | 119 | 79 | 71 | 40 | 39 | 91 | 439 | 0.00 | 1514 | 90.3 | | | |
| | | | | | | | | | | | | | | | | | | | | | * Deceased. † Now Dr. Melville. | |

* Deceased.

† Now Dr. Melville.



TABLE II.—MORTALITY.

Showing deaths from subjoined causes during the year ending December 31st, 1909, classified according to Diseases and Localities.

| DISEASES. | Measles. | Scarlet Fever. | Whooping cough. | Diphtheria and Membranous Croup. | Croup. | Typhus Fever. | Enteric Fever. | Other Continued Fever. | Epidemic Influenza. | Diarrhoea. | Perforated Fever. | Erysipelas. | Phtisis. | Other Tubercular Diseases. | Cancer, Malignant Disease. | Respiratory Organs. | Alcoholism—Cirrhosis of Liver. | Premature Birth. | Diseases and Accidents of Parturition. | Heart Diseases. |
|----------------------------------|----------|----------------|-----------------|----------------------------------|--------|---------------|----------------|------------------------|---------------------|------------|-------------------|-------------|----------|----------------------------|----------------------------|---------------------|--------------------------------|------------------|--|-----------------|
| SANITARY DISTRICTS. | | | | | | | | | | | | | | | | | | | | |
| Municipal Boroughs. | | | | | | | | | | | | | | | | | | | | |
| Conington | 1 | 1 | 1 | 1 | 1 | 2 | 5 | 6 | 10 | 3 | 10 | 36 | 1 | 8 | 1 | 22 | | | | |
| Crewe | 1 | 4 | 7 | 2 | 2 | 19 | 16 | 1 | 31 | 18 | 41 | 136 | 10 | 18 | 6 | 67 | | | | |
| Dukinfield | 8 | 2 | 1 | 2 | 8 | 2 | 16 | 1 | 11 | 17 | 74 | 1 | 12 | 2 | 29 | | | | | |
| Hyde | 12 | 2 | 1 | 2 | 5 | 2 | 7 | 1 | 41 | 14 | 27 | 98 | 5 | 12 | 2 | 59 | | | | |
| Macclesfield | 4 | 1 | 3 | 3 | 3 | 10 | 9 | 3 | 42 | 27 | 44 | 92 | 3 | 17 | 2 | 63 | | | | |
| Stalybridge | 7 | 3 | | | 2 | 3 | 3 | 3 | 35 | 22 | 28 | 119 | 8 | 13 | 1 | 46 | | | | |
| | 32 | 9 | 7 | 14 | 22 | 38 | 57 | 4 | 5 | 170 | 101 | 167 | 555 | 28 | 80 | 12 | 284 | | | |
| Other Urban Districts. | | | | | | | | | | | | | | | | | | | | |
| Alderley Edge | | | 1 | | | | | 1 | 3 | | 9 | 5 | 1 | 3 | | 5 | | | | |
| Alsagar | | | | | 1 | 2 | 1 | | 3 | | 5 | 6 | | | | | | | | |
| Altrincham | 4 | 1 | | | | 8 | 4 | | 17 | 7 | 14 | 51 | 2 | 6 | 1 | 29 | | | | |
| Ashton-upon-Mersey | 4 | 1 | 3 | | | 3 | | 1 | 9 | 2 | 4 | 23 | 2 | 2 | 1 | 2 | | | | |
| Higher Bebington | | | | | | | 1 | | 2 | | 2 | 2 | 1 | | | 1 | | | | |
| Lower Bebington | | 1 | | | | 2 | 2 | 1 | 12 | 5 | 7 | 23 | | | | | | | | |
| Bollington | | | | | | 1 | 3 | | 4 | 2 | 2 | 10 | 1 | 1 | | 8 | | | | |
| Bowdon | | | | | | | | | 1 | 1 | 2 | 8 | 2 | | | 8 | | | | |
| Bredbury and Romiley | 1 | 1 | 1 | | 1 | 1 | | 1 | 6 | 11 | 8 | 15 | 1 | 2 | 1 | 15 | | | | |
| Bromborough | | | | | 1 | | 1 | | 1 | | 2 | 4 | | | | 7 | | | | |
| Buglawton | 2 | | | | | 2 | | | 1 | 3 | 1 | 4 | 1 | | | | | | | |
| Cheadle and Gatley | | 4 | | | | 1 | | | 7 | 2 | 12 | 21 | 1 | 5 | | 8 | | | | |
| Compstall | | | | | 1 | | | | 1 | 1 | 2 | | | | | | | | | |
| Ellensmere Port and Whithy | 14 | 2 | 4 | | | 2 | 8 | | 4 | 6 | 6 | 21 | 3 | 11 | 1 | 3 | | | | |
| Hale | | | | | | | | | | | | | | | | | | | | |
| Handforth | | | | | | | | | 1 | 2 | | | | | | 3 | | | | |
| Hazel Grove and Braunhall | | | 2 | | | | | 1 | 9 | 5 | 10 | 21 | | 2 | 4 | 19 | | | | |
| Hollingsworth | 1 | | | | | | | 1 | | | | 2 | 7 | | | 7 | | | | |
| Hoole | 2 | 1 | 1 | | | 1 | | 1 | 1 | | 6 | 8 | | 4 | 1 | 5 | | | | |
| Hoyle and West Kirby | 1 | 1 | 1 | 2 | 1 | 3 | 6 | | 17 | 4 | 16 | 38 | | 2 | 1 | 16 | | | | |
| Knutsford | | | | | | | 1 | | 2 | | 4 | 10 | 2 | 1 | | 7 | | | | |
| Lymm | | | | | | 2 | | | 8 | 4 | 6 | | | | | 11 | | | | |
| Marple | 1 | | | | 1 | 2 | | | 4 | 4 | 5 | 18 | | 1 | | 6 | | | | |
| Middlewich | 2 | 1 | 1 | | | 1 | 2 | | 6 | 5 | 7 | 14 | 1 | 6 | | 7 | | | | |
| Mottram | 2 | | 1 | | | | | | 1 | 4 | 3 | 6 | 1 | | 9 | | | | | |
| Nantwich | 5 | 1 | 1 | 1 | | 1 | 7 | | 5 | 2 | 6 | 27 | 2 | 1 | | 18 | | | | |
| Neston and Parkgate | | | | | | 2 | 1 | | 4 | | 4 | 23 | 1 | 14 | | | | | | |
| Northwich | 4 | 1 | | | | | | | 6 | 4 | 13 | 33 | 1 | | 2 | 25 | | | | |
| Runcorn | 3 | | 1 | 1 | 9 | 2 | 5 | 1 | 14 | 9 | 13 | 40 | 1 | 11 | 3 | 8 | | | | |
| Sale | 9 | 1 | 1 | 3 | | 1 | 5 | | 9 | 10 | 12 | 37 | 3 | 6 | 2 | 19 | | | | |
| Sandbach | | | | | | 3 | 1 | | 4 | 2 | 1 | 12 | 1 | 2 | | 8 | | | | |
| Tarporley | | 1 | | | | 3 | 2 | | 1 | 1 | 1 | 6 | | | | 2 | | | | |
| Wallasey | 13 | 20 | 9 | | 2 | 12 | 16 | 1 | 63 | 34 | 73 | 162 | 7 | 27 | 8 | 85 | | | | |
| Wilmslow | 6 | 1 | | | | | | 1 | 2 | 1 | 5 | 17 | 2 | | | 13 | | | | |
| Winsford | 8 | 4 | | | | 2 | 3 | 2 | 5 | 3 | 12 | 26 | 1 | 8 | 2 | 23 | | | | |
| Yeardeley-cum-Whaley | 1 | | | | | | | | | | | | 3 | | 1 | 3 | | | | |
| | 62 | 48 | 17 | 30 | 2 | 17 | 2 | 55 | 73 | 3 | 5 | 232 | 134 | 272 | 703 | 36 | 116 | 42 | 380 | |
| Rural Districts. | | | | | | | | | | | | | | | | | | | | |
| Bucklow | 1 | 4 | | | | 8 | 4 | | 14 | 6 | 29 | 56 | 6 | 7 | | 30 | | | | |
| Chester | 2 | 4 | 1 | 8 | 1 | 2 | | 1 | 10 | 4 | 14 | 22 | | 11 | | 20 | | | | |
| Conington | 5 | 3 | 3 | | | 3 | 3 | | 11 | 7 | 6 | 33 | 2 | 5 | 2 | 17 | | | | |
| Disley | | 1 | | | 1 | 2 | 2 | | 1 | | 9 | | | 1 | | 5 | | | | |
| Macclesfield | 4 | 1 | | | | 5 | 2 | | 7 | 5 | 12 | 39 | 3 | 5 | | 26 | | | | |
| Malpas | | 1 | | | | | | 1 | 5 | 1 | 13 | 4 | | | | 8 | | | | |
| Nantwich | 1 | 2 | 3 | 3 | | 11 | 4 | 1 | 17 | 8 | 18 | | | | | 37 | | | | |
| Northwich | 4 | 1 | 2 | | | 5 | 2 | | 13 | 13 | 15 | 43 | 4 | 7 | 4 | 23 | | | | |
| Runcorn | 3 | 3 | 5 | | 1 | 6 | 2 | | 10 | 8 | 14 | 55 | | 11 | 3 | 32 | | | | |
| Tarvin | 9 | 3 | 1 | 1 | | 5 | | | 8 | 8 | 14 | 19 | 1 | 9 | 3 | 15 | | | | |
| Tintwistle | 1 | | | | | | | 1 | | | | | 5 | | | 5 | | | | |
| Wirral | | 2 | 5 | | | 1 | 2 | | 2 | 12 | 2 | 15 | 40 | 3 | | 10 | | | | |
| | 25 | 22 | 16 | 27 | 1 | 2 | 48 | 23 | 2 | 6 | 107 | 65 | 150 | 325 | 19 | 56 | 19 | 228 | | |
| Administrative County. | 119 | 79 | 40 | 71 | 3 | 41 | 2 | 141 | 153 | 9 | 16 | 509 | 300 | 569 | 1583 | 83 | 252 | 73 | 892 | |

Showing cases notified and cases removed to Hospital during the year ending December 31st, 1909, classified according to Diseases and Localities, and giving particulars as to Isolation Hospital Provision.

67 Cases of Measles were notified in Alderley Edge Urban District.
226 " " " Ashton-on-Mersey Urban District.
19 " " Whooping Cough were notified in Ashton-on-Mersey Urban District.

